# THE JOURNAL OF AIR LAW AND COMMERCE

Volume XII
1941

Edited by the
AIR LAW INSTITUTE

Published for the Air Law Institute by
NORTHWESTERN UNIVERSITY PRESS
1941

Copyright 1941

By the Air Law Institute



B.G.

# THE JOURNAL OF AIR LAW AND COMMERCE

**The Journal of Air Law and Commerce prints matter it considers worthy of publication However, no responsibility is assumed for the soundness of the views expressed.**

**EDITED BY**

HOWARD C. KNOTTS, Editor-in-Chief.
JOHN H. WIGMORE, Associate Editor.
CARL M. JENSEN, JR., Student Editor.

**EDITORIAL BOARD**

**EDGAR S. GORRELL**—President, Air Transport Association of America.

**MERRILL C. MEIGS**—Chairman, Chicago Aero Commission; Member, Illinois Aeronautics Commission; Chief, Aircraft Section, Office of Production Management.

**DAVID L. BEHNCKE**—President, Air Line Pilots Association, International.

**L. A. VILAS**—Vice President, The Pyle-National Company.

**DEPARTMENT EDITORS**

**State Department:**

**GILL ROBB WILSON**—Director of Aviation, State of New Jersey; President, National Aeronautic Association.

**ELWOOD B. COLE**—Lieutenant Commander, Bureau of Aeronautics, Navy Department.

**Federal Department:**

**STUART G. TIPTON**—Assistant General Counsel, Legal Safety Division, Civil Aeronautics Board.

**FRED M. GLASS**—Of Counsel, American Airlines, Inc.

**International Department:**

**STEPHEN LATCHFORD**—Chief, Aviation Section, Division of International Communications, State Department; Chairman, American Section of the CITEJA.

**SAMUEL E. GATES**—International Counselor, Civil Aeronautics Board.

**EDITORIAL ADVISORY BOARD**

**DAVID C. BEEBE**—President, United States Aviation Underwriters.

**PAUL V. BETTERS**—Executive Director, United States Conference of Mayors.

**HARLLEE BRANCH**—Chairman, Civil Aeronautics Board.

**THOMAS BURKE**—Chief, Division of International Communications, Department of State.

**JOHN H. JOUETT**—President, Aeronautical Chamber of Commerce of America.

**GEORGE B. LOGAN**—Legal Counsel, National Association of State Aviation Officials; National Councillor-at-Large, National Aeronautic Association.

**EARL D. MALLERY**—Executive Director, The American Municipal Association.

**DEXTER C. MARTIN**—President, National Association of State Aviation Officials; Director of Aeronautics, State of South Carolina.

**HAVEN B. PAGE**—Lieut. U.S.N.R., Plans Division, Bureau of Aeronautics, Navy Department; Member of Advisory Committee, American Section, CITEJA; Member, District of Columbia Bar.

**WILLIAM A. SCHNADER**—Chairman, Committee on Uniform Aeronautical Code, National Conference of Commissioners on Uniform State Laws.

**EDWARD P. WARNER**—Vice-Chairman, Civil Aeronautics Board; Member, National Advisory Committee for Aeronautics.

**MABEL WALKER WILLEBRANDT**—Chairman, Committee on Aeronautical Law, American Bar Association.

**Subscription Per Year:** United States, $5.00; Foreign, $5.50. Single Copies $1.50. Published in January, April, July, and October by Northwestern University Press. Address all communications to the AIR LAW INSTITUTE, 357 East Chicago Avenue, Chicago, Illinois.

Copyright, 1941, by the AIR LAW INSTITUTE

168602

# TABLE OF LEADING ARTICLES—AUTHORS


PAGE

ALTSCHUL, SELIG. *Economic Regulation of Air Transport* ..... 163

BARTON, FRANK L. *Additional Air Service for the Southeast* ..... 242

FREDERICK, JOHN H. and ARTHUR D. LEWIS. *History of Air Express* .... 203

GORRELL, EDGAR S. *What—No Airplanes?* ..... 1

HAMSTRA, J. HOWARD. *Two Decades—Federal Aero—Regulation in Perspective* ..... 105

HUNTER, JOHN M., JR. *Airport Legal Developments of Interest to Municipalities—1940* ..... 148

JARZ, EMIL F. *Intermunicipal Cooperation in Establishing, Maintaining, and Operating Airports* ..... 301

LANDIS, REED G. *Airline Airport Capacities* ..... 58

LEWIS, ARTHUR D. and JOHN H. FREDERICK. *History of Air Express* ..... 203

LOGAN, GEORGE B. *Aeronautical Law Developments in 1940* ..... 33

MCMULLEN, A. B. *Airports and National Defense* ..... 51

MELONE, NEIL G. *Controlled Competition: Three Years of Civil Aeronautics Act* ..... 318

RYAN, OSWALD. *Federal and State Jurisdiction Over Civil Aviation* ..... 25

TAYLOR, THOMAS K. *A Practical Reconciliation of State and Federal Control* ..... 232

# TABLE OF LEADING ARTICLES—TITLES


PAGE

Additional Air Service for the Southeast. *Frank L. Barton*..... 242
Aeronautical Law Developments in 1940. *George B. Logan*..... 33
Airline Airport Capacities. *Reed G. Landis*..... 58
Airport Legal Developments of Interest to Municipalities—1940. *John M. Hunter, Jr.*..... 148
Airports and National Defense. *A. B. McMullen*..... 51
Controlled Competition: Three Years of Civil Aeronautics Act. *Neil G. Melone*..... 318
Economic Regulation of Air Transport. *Selig Altschul*..... 163
Federal and State Jurisdiction Over Civil Aviation. *Oswald Ryan*.... 25
History of Air Express. *John H. Frederick and Arthur D. Lewis*..... 203
Intermunicipal Cooperation in Establishing, Maintaining, and Operating Airports. *Emil F. Jarz*..... 301
Practical Reconciliation of State and Federal Control, A. *Thomas K. Taylor* ..... 232
Two Decades—Federal Aero-Regulation in Perspective. *J. Howard Hamstra* ..... 105
What—No Airplanes? *Edgar S. Gorrell*..... 1


# EDITORIALS


Airline Passenger Fares. *Harold J. King*..... 256
Army Air Corps Cargo Activities. *John H. Frederick*..... 359
Coordinator of Air Traffic, A. *Howard C. Knotts*..... 361
Jurisdictional Synthesis for Aero-Regulatory Agencies. *J. H. H.*..... 64
Model Airport Zoning Act. *Nathan William MacChesney*..... 172
An Open Letter to Larry McPhail..... 259
Tenth Annual Meeting N.A.S.A.O. *J. H. H.*..... 64


# NOTES, COMMENTS AND DIGESTS


Ancillary Jurisdiction in the Federal Courts. *Jerome Silberg*..... 288
Duty of Care Required of Pilot Operating on a Controlled Airport. *Milton Louis Lange*..... 379
Liability of Aircraft Operator for Injury to the Man on the Ground or Damage to His Property. *Dwight Hightower*..... 377
Monopoly Versus Competition in Air Routes Under the C.A.A. *J. H. Hamstra, G. Watson, R. Barber*..... 280
New York Consent Decree, CAB v. CCA..... 199

## BOOK REVIEWS


PAGE

BACHE & Co., J. S.: *Handbook of the Air Transport Industry, Carl McGowan* ..... 100

HAYDON: *Aeronautics in the Union and Confederate Armies, Paul M. Angle* ..... 201

STERN, WAMPLER & Co., INC.: *The Air Lines, Carl McGowan* ..... 100

TURNER AND DUBUQUE: *Win Your Wings, Fritz G. Lorenz* ..... 104


## DOCUMENTS AND REPORTS


**State Regulation**

CIVIL AIR REGULATIONS AND FORMS UNDER 1940 RHODE ISLAND ACT.. 83

LIABILITY OF AIRCRAFT OPERATOR FOR INJURY TO THE MAN ON THE GROUND OR DAMAGE TO HIS PROPERTY.....*Dwight Hightower* 377

N.A.S.A.O. ANNUAL MEETING, 1941..... 367

N.A.S.A.O. OFFICERS FOR 1941..... 66

N.A.S.A.O. PRESIDENT'S REPORT. *D. O. Langstaff*..... 69

N.A.S.A.O. REPORT OF COMMITTEE ON AIRPORTS AND AIRWAYS..... 72

N.A.S.A.O. RESOLUTIONS ADOPTED..... 66

REPORT OF THE COMMITTEE ON AERONAUTICAL LAW OF THE AMERICAN BAR ASSOCIATION, 1941..... 261

MINORITY REPORT. *George B. Logan*..... 268

**Federal Regulation**

BOSTON PORT AUTHORITY, INTERVENTION PETITION..... 191

FEDERAL CERTIFICATES FOR ALL AIRCRAFT AND PILOTS..... 371

INVESTIGATING AIR ACCIDENTS—PRELIMINARY REPORT, HOUSE OF REPRESENTATIVES SELECT COMMITTEE..... 272

L. & N. R. R. Co. INTERVENTION PETITION..... 189

NEW AIR COMMERCE REGULATIONS RELATING TO CUSTOMS, IMMIGRATION, ENTRY AND CLEARANCE, AND PUBLIC HEALTH..... 369

NEW DIRECTOR OF THE CAA PILOT PROGRAM..... 371

PHOTOGRAPHIC RULES GOVERNING FLIGHT OVER MILITARY AND NAVAL ZONES ..... 191

**International Regulation**

U. S. A.-CANADA, AIR TRANSPORT ARRANGEMENT..... 194

U. S. A.-GREAT BRITAIN, NAVAL AND AIR BASE AGREEMENT..... 195

U. S. A.-MEXICO, TRANSIT OF MILITARY AIRCRAFT AGREEMENT..... 374

UNITED STATES NATIONAL COMMISSION OF THE PERMANENT AMERICAN AERONAUTICAL COMMISSION ..... 373

# THE JOURNAL OF AIR LAW AND COMMERCE

Volume 12 JANUARY, 1941 Number 1

## WHAT—NO AIRPLANES?*

For the last twenty years, by means of both the printed and spoken word, the American public has been constantly and frequently informed that, by Armistice Day, November 11, 1918, no American built "fighting" airplane had ever been flown over the western front in the World War. With patriotic fervor, the public has for a generation condemned those responsible for this allegedly tragic situation. The fact that such a statement ignores both the facts and the reasons for our wartime policy seemingly remains generally unrecognized. Someone should tell what actually did happen and why it happened.

I am, I believe, the only American still alive who possesses complete and first-hand information on all the essential ramifications of this subject.

David Lloyd George, war-time Prime Minister of England, in his recent memoirs adds fuel to the flames by his unqualified statement that General Pershing on February 28, 1918, pointed out in a telegram to the Government of the United States that "as a matter of fact, there is not today a single American-made plane in Europe."

To an interested reading public, this statement might infer that General Pershing was stating to his Government that America had been in the war for ten months, and during that time had failed to produce a single airplane for use on the western front as he, Pershing, had anticipated, and that the Allies, within the same period of time, not only could do, but actually had done, a better job in designing, engineering and producing airplanes than had America.

*Address delivered by Col. EDGAR S. GORRELL, (formerly Chief of Staff, Air Corps, A. E. F.) President, Air Transport Association of America, at the Tenth Annual Convention of the National Association of State Aviation Officials, Louisville, Kentucky, October 17, 1940.

Any such inference completely shuns realities. Pershing's war plans neither depended nor counted upon American built planes of any type or quantity being on the western front by February, 1918. It was anticipated by the A.E.F. that such planes would not arrive before July 1st, 1918. And this anticipation was realized.

Thousands of patriotic Americans, aided by intelligent and experienced British, French and Italian advice, faithfully, intelligently and self-sacrificingly contributed to America's program of war-time aeronautical accomplishments. For it all, much of the post-war literature contains neither recognition nor commendation. The authors can find only faults. The reward they offer for honorable, faithful and successful service to their country by our countrymen was termed "snarling criticism, fault-finding complaints, and destructive vituperation," to quote the reply to opposition critics made by Congressman Clarence F. Lea, of California, in his statement on February 16, 1920, at the close of the Congressional investigation into war-time expenditures.

Every interested American would do well to read Part 2 of House Report No. 637, 66th Congress, Second Session. This report, written by Congressman Lea, is the only accurate and truthful Congressional document devoted to the subject under consideration. In compiling this document, Mr. Lea stated that he was attempting to set forth exactly what did happen, not that he believed America of *that* day would pay any attention to the facts but that, some day in the future, America might need to know, and might utilize, the truth. Mr. Lea in 1919 very wisely remarked that probably twenty years would elapse before Americans would dispassionately consider the real facts. This prediction, perhaps because of the troublesome situation in current World affairs, has now been realized, for there is today more interest in this House Report than there was even on the day it was originally submitted.

David Lloyd George, in volume 5 of his War Memoirs, after devoting a whole chapter to unwarranted criticism of America and especially to unmerited, inaccurate, and, in some cases, vindicative, criticism of General Pershing, concludes Chapter II with a number of absolutely erroneous statements, all designed to prove that America, because of untimely pride, refused to manufacture airplanes of British and French designs and to profit by the experience accumulated by the British and French prior to America's entry into the World War. Says this great British leader, (whose memoirs, valuable and thrilling as they are, might have been closer to the truth had he confined his criticism to British matters, with

which he was familiar), "They (the Americans) considered that it would be a reflection upon American inventiveness and ingenuity merely to keep to European patterns (of airplanes). They must have something original to send to Europe."

Forgetful even of the conferences in which he personally participated, forgetful that the fundamentals of America's aeronautical policy in Europe were determined in collaboration with Britishers designated by and representing him, forgetful that America's aeronautical policy was restricted by the scarcity of ocean tonnage and based upon other factors with which the British and Americans agreed in absolute harmony of thought, Lloyd George ends his statement with the sneer, "when the Armistice was signed, November 11th, half the airplanes used by the American Army were of French and British make." (Incidentally, very few were British, as we shall observe later.) The situation upon which Lloyd George thus comments was as much the conception of him and his staff, as it was of the Americans. Also, it is a fact that had British information and advice concerning the usefulness of night bombardment airplanes not been so incorrect and short-sighted both in the Spring and in June of 1917, greater destruction from the air by American built airplanes would have been visited upon the enemy's industrial and military resources.

Previous to entering the war, the United States lacked both experience and preparation in aeronautics. When the war in Europe began, our country ranked fourteenth among the nations of the world in amounts appropriated for aviation. Our appropriations had been less than those of China, Bulgaria, Brazil and Spain. Although the development of the airplane was rapid during 1914-1917 under the intense pressure of war, when America entered we were entirely without experience in the creation of airplanes for warfare.

America had not built a single plane fitted for use in battle. No American factory had made more than an unsuccessful experimental attempt at creating battle planes. We had, up to that period, made a few types of small engines and a few training planes. Our country had never even owned service planes such as were then being used in Europe.

Our Army Air Service appropriation had for years been running only from $150,000 to $300,000 a year. From 1908 to 1916 a total of but 59 airplanes of all types and for all purposes had been delivered to our Army. The nations involved in the World War, operating under the stress of war-time necessity, had spent vast

sums for the designing, engineering and producing of airplanes and the creation of aircraft industries of war-time proportions in their respective countries.

Precisely what had been accomplished in aeronautics by the different warring nations was unknown to the United States. Through fear that we might enter the war against them or otherwise aid their enemies, none of the warring powers had been willing to allow us to learn the details of its war-time aeronautical accomplishments. Our military observers in each of the warring countries were deliberately kept in ignorance. Therefore when our country declared war against Germany, we found ourselves with no definite idea of what to build for use on the western front, nor of the engineering and performance characteristics of the airplanes, engines and accessories essential for efficient action, either at the time we declared war, or by the time it would be possible for us to have an American Army under the American flag in Europe.

In the spring of 1917, each of the Allied nations hastened to send civil and military missions to the United States to tell America how to manage its part in the World War. Ideas in each of these missions differed vastly. We had hoped they would bring us definite information concerning the types of material we must supply for the World War. We found their idea of what we should try to accomplish from the military standpoint almost at the bottom of the list of things they then wanted of us.

By late May, 1917, after we had been at war for almost sixty days, it became apparent that we could not secure useable aeronautical information delivered to us in Washington from our Allies. We, therefore, resolved to send a Joint Army and Navy Aircraft Mission to Europe to ascertain the answer to the two fundamental questions:—

1. What aeronautical material should we purchase in Europe for the use of our troops, and
2. What aeronautical material should we attempt to build in the United States both for ourselves and for our Allies?

This mission was to discover "what" we were to make in this country and not "how much" we were to produce. "How much" we were to attempt originally to *produce* had already and previously been settled with the rapid adoption by this country of the request that the French Premier, Ribot, had made in a cable of May 24, 1917, calling upon America to furnish for use on the western front a larger Air Force than any country had ever possessed — 4,500 airplanes with 5,000 pilots and 50,000 mechanics. This cable added

that, in order to maintain this quantity of airplanes in service on the western front, the further production of 2,000 airplanes and 4,000 engines per month would be required solely for replacement purposes. Even as early as the end of May, 1917, the American Government had adopted this French estimate of quantity as a manufacturing target at which this nation would shoot. The "time element" then thought to have been set by the French government (but since believed to have been inserted in the cable by an over-zealous member of the French Mission in America) namely, "To be at the front by the spring of 1918," could not be determined by America at that date, as we then lacked knowledge both as to *what* aircraft to build and *how* to build them. Much of the necessary manufacturing knowledge was in the hands of the individual workmen in overseas factories in which manufacturing methods, blue prints, specifications, tolerances, etc., were all handled in ways foreign to the American practice. The Allies in some cases could not, and in other cases would not, give us the information to permit our immediately starting the program. Hence we had to send a mission to Europe to get the necessary information.

A further complication was the fact that manufacturers in France and England customarily were charging each other royalties on the various types of aircraft, aircraft engines, and accessories. In the spring of 1917, their sales agents streamed into Washington attempting to sell to the United States Government, *on a royalty basis,* European ideas on the construction of war materials. As Howard E. Coffin, of the then Council of National Defense, said at the time, "to ask America to pay to the Allies a royalty on the construction of Allied war materials, was to ask us to pay an entrance fee to get into the war in order to help the Allies toward victory."

Our mission consisted of two Army aeronautical engineers, two officers of the Navy, a number of civilian industrial experts, and 93 skilled mechanics and factory experts. We planned to place the latter in Allied factories for the purpose of securing, at first hand, practical information regarding methods of manufacture which could not readily be embodied in written plans and specifications. This mission was headed by Raynal Cawthorne Bolling. It was fortunate that the Army officer, who normally might have headed the mission, was intelligent enough to realize that he was not only too young to act as the mission's leader, but also lacked the requisite training in international business negotiations. He realized, with the complicated questions pertaining to royalties, etc., that it would

be necessary to have a qualified civilian to act as a business leader. Thus, Bolling was chosen to head the mission. He had not only had experience as the commander of the First Aero Squadron, New York National Guard, but he was also one of the senior attorneys in the United States Steel Corporation. It was mainly because of this latter training that he was chosen.

While the leaders of our small Army Air Service realized that they had insufficient knowledge to start immediately to build the small size, highly maneuverable types of airplanes necessary for daylight fighting on the western front, they did feel, even as early as April, 1917, that America could and should build a type of large night bomber if only we could get the design from the Allies. Our War Department cabled Great Britain asking whether America should start building the then best type of their large night bombing machines, the Handley-Paige. We were greatly surprised to receive in reply a cablegram from England advising us not to build any night bombers or any large bombing planes of any type, saying that they were of but little value in the European war.

The mission headed by Bolling (then Major, later Colonel) sailed from New York on June 17, 1917, and arrived in London on June 26, 1917. The very next morning Bolling and I met with the entire British Air Board. In this session, the British reiterated their advice that large bombardment airplanes were of little or no value in the war. They were unanimous in advising that America should not build any such type of airplanes. This advice was a shock to us; we could neither understand nor believe their reasoning. However, we tried to feel that the British, having had three years' experience in the war should know whereof they spoke.

We then asked the British what they would advise. They advised that America should build in the United States only such airplanes as were already sufficiently advanced, either in the practical or experimental stages, as to be of value on the front at the time when the completed airplanes could reach the front in quantity. To do otherwise would be to build airplanes that would be valueless in the already rapidly changing type of aerial warfare. We asked for British cooperation. This the Air Board gave gladly and unstintingly. Sir William Wier, then civilian head of the British aeronautical production activities, was designated as the man with whom the Americans should consult.

Members of the Bolling Mission were temporarily assigned to observe various British activities. Within five days, the mission, thanks to marvelous British cooperation, had made a quick examina-

tion of that which Great Britain had to offer and had selected the outstanding airplanes, engines, and accessories which they felt America should *consider* constructing for war-time use. Bolling and I met frequently with Sir William Wier endeavoring to procure samples, drawings, specifications, etc., of each item chosen for prompt shipment to the United States.

The British Air Board and Sir William Wier raised the question of how much royalty America would pay to the British manufacturers whose ideas might be copied. Bolling very promptly replied that the United States would pay no royalty saying that it was not our intention "to pay an entrance fee to enter the war." Bolling then proposed a mutual exchange of manufacturing rights for the duration of the war insofar as they concerned the construction of aircraft and aircraft accessories pertaining to the Allied program. He reminded the British of the much needed raw material that America could supply and of the potential new engine (later known as the Liberty engine) which America even then was designing. We found Sir William Wier a very broad minded man. He placed victory ahead of American dollars. He saw the advisability and logic of Bolling's statement and agreed that the principle of mutual exchange of manufacturing rights could be arranged with all of England's manufacturers except Rolls Royce.

The Rolls Royce Company had until then held to an attitude which seemed to us to be distinctly arbitrary. They would tell our mission nothing, and would do nothing to help us build the Rolls Royce aeronautical engine unless royalties satisfactory to them were paid. All our arguments, to the effect that what the United States was striving to do was to help win the war, were in vain. They contended that they wanted their royalties or they would not assist us even though it was to be assumed that they then had the best airplane engine and that America's construction of this engine might help shorten the war.

Since the British Aid Board was, of itself, unable to put into effect the principle of a mutual exchange of manufacturing rights for the duration of the war, Bolling, assisted and advised by our Ambassador, Mr. Walter Hines Page, and Sir William Wier, carried the matter on July 1, 1917, to David Lloyd George, Prime Minister of England. Lloyd George said that America and England could talk about royalties after the fighting was over, accepted the principle of a mutual exchange of manufacturing rights for the duration of the war, and instructed Sir William Wier to ship to the United States such samples of aeronautical material and send

such information as we might request. There was one exception to the acceptance of this principle, namely, the Rolls Royce engine. The British government at this date did not feel able to demand of the Rolls Royce Company that it conform to the principle of no royalty and so advised the Bolling mission, which in turn was forced to advise the United States that any arrangement with the Rolls Royce Company would have to be apart from this basic understanding with England.

In its European investigations of Allied engines, the Bolling Mission then found no engines of large horsepower so impressive as the Rolls Royce. This engine the mission believed highly desirable for manufacture in the United States. Even before the mission departed from Washington, the United States Aircraft Production Board had attempted to have representatives sent to America from the British Rolls Royce factory and to get from England the drawings of the Rolls Royce engine in order that we might start Rolls Royce engine production in the United States. The attempt was unsuccessful. As the British government was not in a position to force the Rolls Royce company to give America the drawings from which to manufacture this engine and to force the Rolls Royce company to concede to the United States the right to manufacture their engine without the payment of royalties, the British frankly stated to the Bolling Mission that the United States would have to make, direct with the Rolls Royce company, such agreement as could be made. They further advised us that the Rolls Royce engine was extremely difficult to manufacture, that it was a very fine engine but difficult to maintain in the field, and that America must realize that American production of this engine probably would not be very large. They stated further that, if America would allow the Rolls Royce representatives to come to the United States and manufacture these engines over and above the regular United States production program, the British government would join with the United States in utilizing *all* of the Rolls Royce engines so manufactured. Due to the difficulty of manufacture, the English aircraft production program for the Rolls Royce engine for the coming twelve months was not expected to be sufficiently large.

The Bolling Mission actually cabled the United States recommending the production of the Rolls Royce engine in the United States in addition to all contemplated production of the Liberty engine. After many attempts by our Air Service in Washington to get the Rolls Royce representatives to manufacture their engine in the United States, the United States was informed by the Rolls

Royce company that the cost to our government would be extremely high and production would be extremely low. During the delay which occurred while attempting to satisfy the Rolls Royce company, the Liberty engine had progressed to a stage which showed it to be certain of success, certain of a cheaper price, and certain of a much larger production. The Liberty engine had slightly higher horsepower and slightly less weight per horsepower than did the Rolls Royce. It also had fewer parts. This made it much simpler for large production and more dependable in the field.

Otherwise the work of the mission in England proceeded swiftly. To save time in getting the selected articles en route while we were still negotiating in Europe, Sir William Wier, on June 28, 1917, had already agreed to our request to ship to the United States each article we selected as a sample. He did this at this early date simply upon my giving him my word of honor that the United States would not make use of any of these articles so shipped until an agreement between the British and the Americans on the subject of royalties was definitely settled. With the hearty cooperation of the British, the mission, in five days was able to finish its task in England, and left for France on July 2, 1917. By July 4, 1917, every item requested of the British had been crated and had arrived at Liverpool ready for shipment to the United States.

Whenever our mission shipped, or requested for shipment, a model aircraft, aircraft engine or aircraft accessory, it tried to ship one completed article, one disassembled article but with its parts in assembled form, and one article with the parts in manufactured but unassembled form; the drawings, as nearly complete as the Europeans had them; statements of specifications for material and tolerances; and in general, as far as possible, everything needed by a manufacturer to build the article. On articles recommended for manufacture in the United States, we asked the European manufacturers to send one or more of their own factory experts to help in the United States. Wherever possible our mission placed in the European factories one or more of its American experts that they might absorb all that could possibly be learned before returning to the United States with the information.

In the brief period spent in England, the Bolling mission had investigated aircraft in existence, those in the experimental stage, and those still on the drawing board; had held a series of conferences with the British Air Board; had discussed the American aircraft program and obtained British advice thereon; had received from the British much advice concerning the size of the aircraft program

they thought desirable both in the United States and in Europe; had negotiated, made arrangements, and even settled the linen question to which we shall refer in a moment and which, up to that moment, had given the Allies so much difficulty; had made arrangements to train American flyers in British schools; and had made and recommended to the United States reciprocal arrangements for American flyers in Canadian schools and of Canadian flyers in American schools. It had, in general, handled the many complicated problems necessary for getting the American aircraft program started.

The linen question was but one example of many problems that had to be negotiated. There was, at that time, a distinct world shortage of airplane linen. Almost the entire world's supply of satisfactory linen then came from Ireland, and the physical impossibility of sufficiently increasing nature's crops was apparent. If the Americans were then intending, as they were, to undertake an aircraft program, there was not available or in sight sufficient linen to permit the construction of the required number of safe airplanes. This meant that the British had to authorize a certain quantity of Irish linen for use on United States airplanes and had to reduce, just as America would have to, the safety factor in certain of their experimental and training planes. This was done by using cotton on certain parts of certain planes when linen was not available, though increased loss of life might ensue.

The British made no attempt to "grab off" all the money they could from the Americans. They were heart-and-soul interested in winning the war. Instead of trying to sell us nothing but British products, the Air Board, as a body and individually, advised the Bolling Mission that it should not make any final decisions as to what America should build until after it had visited the other Allied countries. They gave us their best advice and left us free to make our final decisions, offering in the meantime all possible help and support.

In France, we met a totally different attitude. The senior members of our mission arrived in Paris about 2 a. m. on July 2, 1917. That morning, Bolling and I were received by the French Air Minister. He was thoughtful enough to send a car to bring us to the Air Ministry. The chauffeur met us at our hotel. Within the first block he had three accidents. Within the first fifty feet he collided with another car. The voluble arguments which arose were hushed when the other driver saw the uniforms of the Americans in the French car. A few feet farther on, our driver crashed into

still another car; there followed another argument even more voluble. Next, he struck a man riding a bicycle. We then left the car and hired a taxi.

The Air Minister uttered many polite words and, after an appropriate exchange of amenities on both sides, designated his assistant to conduct negotiations with us. We proceeded to the assistant's office where we were introduced to three or four other assistants of lesser rank. We were soon informed that the French had done a tremendous amount of work to get ready for our arrival, but, said they, since the subject was so broad and so complicated, they had decided that they could discuss but one subject per day and even that subject must be agreed upon by the previous day in order that they might properly prepare for their discussion of it. We argued that the items necessary to the making of an Air Force were so numerous that, if we took up but one item per day we would spend the rest of our lives discussing what we were going to do—in fact, we said, the war would have been ended and others been fought before we would be ready to fight. This seemed to make no difference to the French who determined that the subject of the next morning would be upon airplanes. So the following morning, Bolling and I met the French to discuss airplanes. After a full day of discussion, the French elected to discuss engines the following day. So it went, one item per day, each day resulted in a mass of talk, and we got nowhere rapidly. This continued for fourteen fruitless days.

Previous to our arrival in Paris, the French Air Ministry had made up their minds as to what they were going to force America to do for its aeronautical program. The French concentrated all their thought and schemes upon trying to force us to place a contract in France for approximately 20,000 airplanes and 30,000 engines, and to sign that contract immediately without giving further thought to the value of British or Italian aircraft or giving any thought to what we might want to build in America. It is of passing interest to note that, in spite of the efforts put forth by the French in July of 1917 to force us to purchase 20,000 airplanes from them, France fell down on the purchase contract we did make with them on August 30, 1917. This contract called for the delivery of but 5,000 airplanes—only 25% of what they, only 45 days before, had impressed upon us they were capable of producing for America.

After we had been in Paris for about a week an Italian mission arrived to see us. They invited us to visit Italy. We then felt, since our main activities would undoubtedly be on the western front

and since we were not yet at war with Austria, that we were not justified in taking the time to go to Italy.

Especially did we feel a need to conserve time in view of the existing submarine situation, which was most critical. In the first audience with Lloyd George, the greater part of the time was spent in discussing the submarine. The Allies were losing to the submarine 500,000 to 800,000 tons of shipping a month, more tonnage than they were able to build or otherwise obtain. All war plans, as well as food for the people in the British Isles, were vitally affected. All Allied military activities seemed to be facing a limitation because of the scarcity of tonnage for the transportation of raw materials. A real food shortage threatened and food was being dispensed under government restrictions. When we first arrived in London, we had paid our respects to Ambassador Page. Though we were there on a definite aeronautical mission, Ambassador Page reviewed the entire submarine situation, pointing out the perilous straits of England and how bad the British needed help to suppress the submarine. Lloyd George informed us that the war would be over in Germany's favor in three or four months if the German submarine was not curbed. He urged Bolling to cable to the United States asking that additional destroyers be sent immediately to help stop the undersea ships. Our first cablegrams to the United States dealt mainly with the need of assistance for handling the submarine menace rather than with aeronautical problems.

After many fruitless meetings and discussions with the French, we devoted our main efforts towards trying to get them to ship certain sample aircraft to the United States (the British had already done so) in order to conserve time by having the sample aircraft transported while we were talking. The French finally promised they would ship to the United States on the following day each aircraft, aircraft engine, and aircraft accessory then under consideration. Thus, on July 6, 1917, we cabled the United States to expect samples which would be shipped by the next boat. By July 7th, it developed the French had not started to ship any samples to us, and apparently did not then intend to ship any samples. Instead, they were still devoting their energies to attempting to get us to sign an order for the purchase of all our aircraft equipment in France.

After all this we were ready to reconsider the Italian invitation. We concluded that to make the French assist us, we would have to take drastic action. Therefore, when the Italian mission returned to Paris, this time with its ranks reinforced with more outstanding personalities, including a direct representative of the King, we

promised to leave immediately on a visit to Italy. We expressed to the French our regret over the delay which had taken place in Paris. We said that we were proceeding to Italy to study what the Italians had to present. And we asserted that we felt the delays in France would force us to make our selection of airplanes to be built by our government from among British or Italian types — or both.

What a thunder of condemnation fell upon our heads from the French press. Articles appeared damning the individual members of the Bolling mission, alleging that its industrialists were not interested in anything except spending American millions in American factories, stating that the United States had six hundred and forty million dollars to spend for aviation, that the industrialists of the mission expected to spend all of this money in the United States, and demanding that America should spend this money in France. Naturally, we made no comment. When French officials mentioned the news articles, we politely indicated that we had been ready and willing to do our part toward winning the war, but that we had been delayed by the French and, so far, had been prevented from accomplishing in France one single thing. We also indicated that, in England, we had accomplished all that was necessary in our first five days there. We stated that, judging from the attitude of the Italians, we felt we might get equal speed and results in Italy.

On July 15, 1917, the senior members of the Bolling mission left Paris for Italy, spent approximately ten days there and returned to Paris on July 27, 1917. One of our consuls in Italy told us that we were the "first commercial mission from the United States to Italy since 1853."

We were astounded at the aeronautical material available in Italy. It was far better than we had ever hoped to inspect.

The Italians had been greatly handicapped throughout the entire war by lack of raw materials of the kind and quality necessary to build airplanes. Prior to the war, Germany had forced Italy to be in many respects dependent on her. Germany had furnished to Italy coal, iron, and many other raw materials, as well as machine tools and instruments, such as telescopic sights, cameras and range finders. Germany also had controlled Italy's banks and most of the Italian newspapers. During the year preceding Italy's alignment with the Allies, Germany shut off all supplies and all banking aid within her control. France and England would then furnish no assistance until they knew Italy's intentions. The Italians had found it necessary to organize banks of their own, start newspapers of their own, create factories for the manufacture of magnetos,

optical instruments, cameras, machine tools, and to render themselves independent of Germany. No wonder we were amazed at what we found in Italy. We were struck with the fact that neither the British nor the French were then sufficiently informed to give to the Italians the credit due them. Their progress in aviation had been outstanding. In the first year of the war, their aeronautical status was as bad as our own. Yet in the summer of 1917 both their production and development activities were better organized than were those of the French and perhaps quite as well as those of the English. Their larger motor factories were very much like American establishments — more so than anything we had seen elsewhere in Europe. The heads of their establishments compared favorably with our most energetic business men. There was complete harmony between the civil and the military personnel. It was inspiring to see what they had accomplished, especially so because they lacked more in natural resources and raw materials than did any of the other warring nations.

Before our arrival in Italy, in order to save our time, the Italians had prepared and boxed for shipment to the United States one or two of each of their principal types of airplanes. When we asked that they be shipped at once in order that we might save time by having them en route even while considering their desirability, they agreed. They gave us completed drawings — in fact everything we requested. If we suggested that we wanted any particular thing, they immediately wired their Section Technique Aeronautical to prepare it for us and they delivered it to us before we left the country. We told them we would pay no royalty. After some hesitation they agreed. They did say, however, that, in return for their assistance, they would like America's help in one thing; they wanted the Bolling mission to persuade the United States to sell to the Italians raw material of the kind and quality necessary for their aeronautical program — a legitimate request with which we were only too eager to attempt to comply.

We were much impressed by the success the Italians were having with their Caproni airplane. The Italians were alone at that time in official approval of large bombardment airplanes, and were using them on the front with some apparent success. Our observations of Italy's success with large airplanes was totally different from the report we had received in England. When we asked the Italians to send a Caproni airplane to the United States together with all the information thereon in order that we might consider its construction in the United States, they promptly agreed.

We left Italy with a sense of highest regard for the Italians not only as individuals, but also as a nation. The full story of the trip of the Bolling mission through northern Italy should someday be written for the benefit of the American people. The members of our mission were afforded every opportunity to see what they wanted to see, and were treated in a courteous and cooperative manner. Every one in Italy, from the King down, cooperated to make the trip effective. And all at little cost to us. This was very pleasing to the Army and Navy members of our mission, for they were serving a government which had sent them to Europe allowing them in Europe but seven cents a mile traveling expenses and, when not traveling, nothing. The result of this was that regular service members of the mission who had contacts with the Allies were either "broken or badly bent" before our work was half finished. The personal pocketbooks of Raynal C. Bolling and Howard C. Marmon had to be tapped in order that some might eat. The Italians' generous help in paying the mission's expenses enabled all the Americans to travel where some of them would not have had the cash to go.

When the French, upon our return, heard the glowing tributes paid by us to Italian and British aviation, they changed their attitude and finally got down to business. In a few days we were able to arrive at our conclusions as to the value of the various forms of materiel available in French aeronautics.

By the end of July, the mission determined what types of airplanes and engines were best suited to the American Army.

Bolling then invited to a meeting in Paris on July 31, 1917, the British, French and Italian aviation experts that they might discuss with our mission and with each other what materiel America should buy in Europe and what should be built in the United States. Each of the three overseas nations attended this meeting with its senior commanders and other appropriate personnel both from its home office and from its front lines. There were present the civilian head, the operative military head, the technical head, and the supply head of each of the British, French, Italian and American Air Forces. Colonel Bolling presented to this gathering of nations our ideas for the American program. After a full day's discussion, to the delight of the American delegation and to the complete surprise of the Allies themselves, all jealousies were laid aside and the meeting adjourned with an unanimous recommendation on exactly what airplanes, engines and accessories America should buy in Europe and build in the United States for each of the different needs of America's

military aviation. The program was approved in full by all heads of the A.E.F. Air Service. We were then able to present, to General Pershing in Europe and to the War Department in Washington, a program which had unanimous Allied and American approval. The British and Italians authorized us to proceed on a basis of mutual exchange of manufacturing rights for the duration of the war.

The French delayed shipping the samples of their materiel to the United States. In fact, the Spad pursuit plane, which it was agreed America should copy, was not shipped from France until August 28, 1917. We were unable to ship complete Spad drawings because there were none. We, therefore, shipped three Spad machines, one complete, one disassembled to show finished parts, and one comprising a combination of parts not completely assembled. The Spad did not arrive in the United States until the 18th of September, 1917. The major cause of this delay was the French demand for royalties. Fortunately, the French mind had been so well diagnosed in the United States before the Bolling mission sailed for Europe that the American Aircraft Production Board had agreed, in order to expedite the obtaining of material from Europe, that it would pay $100,000.00 for each of six articles to the owner of the rights. Unfortunately, this information became known to the Joffre mission in Washington and the French government was so cabled by its aviation officers on the Joffre mission. The French government had permitted their manufacturers to believe that each manufacturer, if he gave any information to the United States, would get $100,000. Finally, in an effort to expedite the shipments Bolling agreed that the United States would pay $100,000 to each of several manufacturers. Some of the French wanted even more for some of their articles and deliberately delayed shipments in an effort to get more. Bolling impressed upon them that the various $100,00 checks were not to be paid as royalties but were to be paid to inspire the French to make greater haste to help America to aid in winning the war. After prolonged delay, Bolling took the position that, in view of time lost, he would no longer offer the $100,000 to expedite shipment but thereafter would pay the $100,000 only for each of such airplanes as were actually constructed in quantity in the United States. This is but one incident among others where the French put the American dollars ahead of a vigorous push for victory.

During the month of August, 1917, while all the delay in shipping the Spad was taking place, the second battle of Verdun was fought

and this Spad, which had been chosen by the unanimous vote of all the Allies at the July 31st conference, became obsolete even before it reached the French sea coast for shipment to the United States.

No final agreement as to royalties was ever reached with the French. In due course of time, the subject was dropped. The French said no more about it but simply sold us what we wanted. When later we chose for manufacture articles designed by a French individual, such as a camera or a new type oxygen outfit, we sometimes agreed to pay a royalty direct to the individual owner since the French government could not or would not commandeer the article for us.

In 1917, our American engineers and factories were faced with organizing a new industry. Unfortunately, there was no aircraft industry in the United States when we entered the war. The War Department was not finally informed until our cablegram of July 31, 1917, as to the types of airplanes needed for fighting in the European war. It was not until sometime in August that copies of the British planes could be started in the United States. Likewise, the Italians, despite their genuine effort to make prompt shipments, could not get their Caproni to the United States until September 18, 1917.

So, when General Pershing wired in February, 1918, that no American airplanes had yet reached Europe, he was not wiring that America had for ten months failed to supply him with American airplanes. He was wiring that six months had gone without any copies of British and Italian planes reaching Europe and five months had transpired without receiving in Europe any copies of French planes.

All such copies of all recommended "daylight" planes would have been obsolete upon their arrival on the western front. Models changed frequently in *that* fight for world supremacy.

During the war, aircraft design advanced so rapidly that the British used for single-seater pursuit planes, 27 different advanced types; the French, 31 types; the Italians, 13 types; the Germans, 12 types. To illustrate how rapidly any one type of pursuit plane was necessarily altered, it is interesting to note that the French, at the end of the war, were using a Spad twelve designs advanced over the type of the Spad that the Bolling Mission, with the advice and agreement of all the Allies, had recommended to the United States on July 31, 1917. The French Spad was redesigned an average of once a month for the whole time that America was in the war. This certainly shows the futility of America's attempting to make single-seater pursuit planes so far from the battle front and illustrates why

our flyers in Europe were supplied mainly with airplanes constructed in Europe—at the scene of action.

As to two-place pursuit airplanes, the British used in the war, 5 types; the French, 10 types; the Italians, 1 type; the Germans, 3 types. England changed types of her observation airplanes during the war 20 times; France used 22 types; Italy, 11 types; and Germany, 10 types. As to day bombers, the British developed 10 advanced types; France changed her types 7 times; Italy, 4 times. Of night bombers, the British developed 10 types; the French, 4 types; the Italians, 7 types; and the Germans, 6 types.

Types of airplanes required for the fronts changed more rapidly than women's millinery. This explains why America should have built only that limited requirement of daylight plans which our A.E.F. would require should the British and French quit fighting or be defeated *and America be left to fight its way out of Europe alone or with perhaps our former Allies as our enemies*—a not unlikely situation and one that demanded and received consideration in *all* our A.E.F. planning. *This was America's only justification for building and shipping any completed airplanes to Europe prior to 1919.* To have done differently would have been a waste of our then most precious item—tonnage.

In the summer of 1917, it became more and more evident to us in the A.E.F., while retaining our faith in the ultimate success of the American program for 1919, that it would not be possible to put American made airplanes on the western front in the spring of 1918, as Premier Ribot had presumably requested in his cablegram of May 23, 1917.

Anyone who has had dealings with the American government realizes that our own government is slow to move. Other governments are even more slow when dealing with foreigners whose methods differ, whose standard of measurements differ, whose manufacturing principles differ, who are regarded as commercial rivals, and whose thoughts of what are fair regarding royalties and business differ. There was an unexpected delay in getting from Allied governments complete plans of what this country should build. The governments themselves did not have the full information. What they did have did not fit into American manufacturing methods. Our June and July, 1917, investigations in England, France and Italy taught us that, based on the experience of the very best of European manufacturers, delays must be expected before quantity production of satisfactory war-time material could be put into active service on the front. While we believed that as soon as America "got going"

it could probably manufacture more rapidly than could the European factories, we recognied that, even if America did two or three times as good a job as the experienced European factories were then doing, it would be July 1, 1918 before any American built aircraft could appear in the Allied countries. And with the scarcity of shipping, aggravated by the German submarine menace, there was no telling how much delay there would be in getting our aircraft to Europe even after they were manufactured. It was almost impossible to see where sufficient tonnage could be obtained for the purpose—a fear that before the end of 1918 became a reality. By Armistice day, America had completed airplanes at seaboard and insufficient tonnage to move them to Europe.

What is even more important, and what the American public probably has never properly understood, is the fact that we were dependent upon our Allies to keep on fighting and to prevent a German victory while we were getting ready to fight. It would have done us no good to build a large Air Force in 1918, even if we could have done so, if we deprived the Allies of the necessary raw materials with which to continue fighting. We were convinced that the greatest and surest contribution the United States could make towards the joint Allied air warfare was to render every possible assistance to each of our Allies in carrying out the aircraft program of each. Each of our Allies had in the field large, well organized, well trained, and experienced Air Forces which they planned greatly to augment during 1918. The American Air Force had yet to be created, yet to be trained, and, in fact, yet to be organized. Our first duty, undoubtedly, was successfully to support our Allies who were actually carrying on a war until we could get ready to take our part. Therefore, it was essential that our program of production and training should not be permitted to interfere in any way with the program of the Allies and that assistance to the Allies should take priority over our own needs.

Our assistance was vital in three forms:—

1. We must furnish raw and semi-finished material, of much of which there was a shortage, from the United States.

2. It was desirable to develop, as soon as possible, a plan of producing, in great quantity, in the United States, finished parts for airplanes common to the programs of our Allies and of ourselves. Both the Allies and ourselves, during our negotiations, arrived at the conclusion that, if this plan promptly and effectively could be established, it would not only do much to relieve the problem of transportation by reducing the ocean tonnage required for the transport

of airplane material, but it would so relieve the English, French and Italian factories of primary manufacturing operations as to permit them greatly to increase their output of finished airplanes.

3. We must produce a large quantity of large engines, for, in 1917 and even until the very termination of the war, engine production was the limiting factor in the English, French and Italian manufacturing programs. All were unanimous in deciding that, if America could finish the necessary engines, all the Allied countries could increase their output of airplanes.

For America to adopt this three point policy would be self-denying. But unless we did so, it was admitted that the Allies could not hope to carry on until American help in the air would become effective. It must be remembered that there was a world shortage of vital raw materials for the construction of airplanes. Spruce, linen and dope were outstanding items in this category.

However, if American built airplanes could not be counted on prior to July of 1918, what was the American Army on the western front to do for aircraft? We examined the production resources of England, France and Italy. We found that England with an air program larger than anything theretofore accomplished by her, could be counted on to give us little or no assistance. Italy, though successfully organized, was operating on a small scale and we could draw upon her to a limited extent only. In France, however, there were possibilities of manufacturing expansion, together with the necessary experience in design and construction, that would serve the American needs until American industry could get under way, provided the United States would and could supply the raw materials and some machine tools. So, on August 30, 1917, we drew a contract with the French (signed for the United States by General Pershing and for France by Daniel Vincent, under Secretary of State for Military Aeronautics) covering 5,000 airplanes and 8,500 engines to meet the requirements of the American Expeditionary Forces in airplanes, engines, and all aeronautical accessories for the coming year. The deliveries under this contract were to be completed by June 1, 1918. On its part, the United States was to furnish by November 1, 1917, certain specified tools and raw materials necessary to the ultimate fulfillment of the French obligation. The contract also provided that such of the airplanes and engines as were to be furnished by the French by February 1, 1918, would be supplied even though the United States should be unable to deliver, as scheduled, its quota of material and tools. It was upon the provisions of this agreement that the Air Service, American Expe-

ditionary Forces, planned its program of training and of placing aero squadrons on the fighting front. Therefore, in construing General Pershing's telegram which we have referred to, it is to be noted that neither the Allies nor the authorities of the American Expeditionary Forces, in planning the American air program for the western front, based any plans upon American built airplanes being received in Europe as early as February of 1918.

While it is true that both the Americans and French failed properly to perform this particular contract, that there were recriminations on both sides and that this contract was superseded by one dated May 3, 1918, it is likewise true that America furnished in vast quantities the materials and supplies that made possible the maintenance of the Allied Air Forces and finally resulted in their predominance by nearly 100 per cent on the western front. When hostilities ceased on November 11, 1918, the Allies had 6784 airplanes at the front against the enemy's 3352. And so far as our Allies' performance of their obligations was concerned, at no time did they fail properly to provide us with sufficient airplanes adequately to serve our actual needs. When the Armistice was signed, we had of airplanes and balloons, both from the Allies and manufactured in the United States, not only a full complement for all the aero units that we had been able to train and put on the fighting front, but also ample reserves in our European depots.

A total of 5071 airplanes were received and paid for by America from Allied sources. Of this number 2375 were service planes used by the American forces in Europe. France, alone, sold and delivered to us 4791 airplanes (2065 training and 2186 service planes). An average of spare engines in the proportion of one to four was maintained for service airplanes bought overseas. Our squadrons were furnished with quantities of spare parts 50% in excess of those furnished by the French to their own similar units. In the light of the conditions which dictated the policy we and our Allies unanimously adopted, it is obvious that the popular story that we were forced to "borrow" our airplanes from "bleeding France and stricken England" sacrifices facts to sensationalism.

In carrying out this policy we did not, however, lose sight for a moment of the goal of supplying our forces with American built airplanes. In attaining that goal we were successful in that, and to the extent that, materiel was available ahead of trained man power to use it.

The first American built DH-4 airplane arrived in France from

the United States on May 11, 1918. It, and all other American built airplanes, had to be shipped from the seaports to the Air Service Production Center No. 2 at Romorantin, France. This Romorantin Depot received, uncrated, assembled, tested and equipped with all the latest accessories the airplanes received from America. On August 2, 1918, a squadron of 18 American built airplanes (DH-4's), with Liberty engines, was used over the front lines for the first time. At this date the Allied airplane strength was 5528 against the enemy's plane strength of 3309. Up to November 11, 1918, a a total of 1,216 American built airplanes and 2,083 Liberty engines had been received overseas. Of this number, 1,087 airplanes were assembled and of this number 628 were dispatched to the front. Of course, many also went to American training centers. There were 196 American built airplanes in actual use at the front on Armistice Day; we had serving in actual combat on the western front twelve squadrons equipped with American built planes, powered by Liberty engines. And in the American squadrons with our armies, there were a total of 740 American owned planes on November 11.

The Liberty engine, in actual service, proved equal to the highest expectations of its designers and builders. Combining great power with, for its day, unusual reliability and lightness of weight, it was one of the most successful aeronautical engines ever produced. The confidence of the Allies in its performance was shown by their eagerness to secure more Liberty engines than we were able to furnish. The fact that it could be produced in great quantity and that its spares were standardized, made it a most valuable asset for the American and Allied Air Services. It was, perhaps, the greatest single material contribution of the United States during the War to aviation. Toward the end of the War, it was of more value to the Allies than were even America's gold dollars to their depleted treasuries.

So, in the end, we overcame delay and inexperience, lack of tonnage and the barriers of an ocean. Aiding our Allies, and aided by them, we concentrated upon winning the war. And so successfully did we execute our policy that in the crucial months from July, 1918, on to the end, when our swift blows brought an unexpectedly early termination to the holocaust, our own Army saw the wings of planes from America, with engines designed and built by American engineers and workmen, in the van of our advance.

The War was an Allied effort; preeminently was it so in the air.

THE WHITE HOUSE

Washington, D. C.

January 24, 1939

*TO THE NATIONAL AVIATION FORUM:*

***Civil Aviation is clearly recognized as the backlog of national defense in the Civil Aeronautics Act which set up the effective machinery for a comprehensive national policy with respect to the air.***

***Underlying the statute is the principle that the country's welfare in time of peace and its safety in time of war rests upon*** the existence of a stabilized aircraft production — ***an economically and technically sound air transportation system, both domestic and overseas*** — an adequate supply of well trained civilian pilots and ground personnel.

***This new national policy set up by the Congress views American aviation as a special problem requiring special treatment.*** Aviation is the only form of transportation which operates in a medium which knows no frontiers but touches alike all countries of the earth. One fact which stands out is that ***hardly another civil activity of our people bears such a direct and intimate relation to the national security as does civil aviation.*** It supplies a reservoir of inestimable value to our military and naval forces in the form of men and machines, while at the same time it keeps an industry so geared that it can be instantly diverted to the production of fighting planes in the event of national emergency.

I hope the forthcoming National Aviation Forum will give serious thought to the many phases which enter into aeronautics as a national problem.

FRANKLIN D. ROOSEVELT

*(Italics ours.)*

It was not to have been hoped in 1917 that this country could start a new industry in five or six month's time even under the pressure of war. As a matter of fact, if this country today should find itself engaged in war, it would be more than six to nine months before we could hope for any further appreciable reinforcement of tactical for our Army and Navy Air Forces even if we should order planes of types and models already in production. And if we should order for the Army and Navy the construction of already tested and proved contemplated advanced types of planes, it would be at least a year before these planes could be available for our fighting forces even though we were fighting on our own soil and no question of ocean tonnage were involved.

There are certain classes of war-time materiel which cannot be created over night, but which must be built in time of peace and be ready at the outbreak of war. In the case of artillery and similar durable items, these can and should be built in time of peace and should be stored, ready for a war-time emergency. Such is not true of aircraft, for aircraft not only become obsolete but they deteriorate rapidly if kept in storage. Thus, our only salvation, for properly designed aircraft and for the quantities of aircraft needed by our military forces in time of war, is a properly developed and mature aircraft industry existing in this country *at the outbreak of war*. This America did not have when the World War was declared. And even today we have it to but a limited extent, despite the fact that the Baker board in 1934, all other Federal boards and investigating bodies (of which there have been fifteen in the last generation), and the President's special messages to Congress from January 12, 1939, and onward have all recommended a stronger aircraft industry as being essential for national defense.

In looking back at a glorious period of our military history, and in dissipating the false disparagement of the uninformed, let us look forward too. Let us determine never again to be faced with so herculean an undertaking as that which the Bolling mission found to lie ahead in 1917. Let us provide, while there is time, for an aircraft industry *now* which can meet the challenge when it comes.

# FEDERAL AND STATE JURISDICTION OVER CIVIL AVIATION†

By Oswald Ryan*

The question as to the proper field for activity by the State and Federal Governments in respect of the rapidly developing aviation business[1] is a question both of law and of policy. On the policy side we are concerned with such questions as: Is it necessary or desirable that a given aeronautical activity be subjected to public control? If so, should that control be one of state or federal law? On the legal side, we deal with such questions as the constitutional power of the respective governments, and the extent to which that power has been exercised by Congress.[2] A failure to distinguish between matters of law and of policy sometimes results in confusion, and it is well to keep in mind that in general, the legal validity of a statute is not determined on the basis of its policy or wisdom; nor is discussion of what a statute *ought* to say relevant when we are considering what the law *says*.[3]

In its everyday, routine functions, the Civil Aeronautics Board[4] is concerned with the interpretation and application of the provisions contained in the Civil Aeronautics Act of 1938. That Act consti-

†Manuscript prepared by author from address delivered before the Tenth Annual Convention of the National Association of State Aviation Officials Louisville, Kentucky, October 18, 1940.

*Member, Civil Aeronautics Board; Chairman, Federal Interdepartmental Committee on Mechanic Training for the Aircraft Industry; Former General Counsel, Federal Power Commission; Member, President's Legal Advisory Committee on Federal Utility Legislation.

1. Current comment on rate and extent of growth is found in testimony before the Subcommittee of the Committee on Appropriations in connection with appropriations for development of airports (Hearings on H. R. 10539, 76th Cong., 3d Session); see also air carrier operating statistics, 1 Civil Aero. Journal 425 (Sept. 15, 1940.)

2. Interesting questions both of law and policy in the regulation of civil aeronautics have been recently discussed. Cf. Willebrandt, "Federal Control of Air Commerce" (1940) 11 JOURNAL OF AIR LAW 204; *Morris* "State Control of Aeronautics", 11 *id.* 320.

3. Cf. *Cardozo*, "The Nature of the Judicial Process", pp. 14-18; Holmes dissenting in *Hammer* v. *Dagenhart*, 247 U. S. 251 (1918); pointing out that where Congress speaks under the interstate commerce clause, the Court will not "intrude its judgment upon questions of policy."

4. The Civil Aeronautics Board is the five-member body which exercises the quasi-judicial and quasi-legislative powers delegated by Congress in the Civil Aeronautics Act of 1938. Prior to July 1, 1940, the effective date of the Executive Reorganization Order No. 4, the Board bore the designation "Civil Aeronautics Authority". It is an independent agency in the exercise of its powers, although, by the terms of the Executive Reorganization Order No. 4 it is located within the framework of the Department of Commerce for "administrative housekeeping" services.

tutes the broadest and most significant jurisdiction which the Congress has thus far asserted over civil aviation.[5]

In construing the Act, first reference is naturally to the constitutional principles involved. From section 1 of the Act it is apparent that Congress in asserting this jurisdiction has relied upon its constitutional power over interstate and foreign commerce, as well as its postal power, and in some aspects, perhaps, upon its treaty-making power (in occupying the field of civil aviation). These powers, however broad, are limited by the provisions of the Tenth Amendment, which reserves to the states respectively and to the people all powers not specifically delegated to the Congress.[6] The line which separates the field of Congressional action, on the one hand, from that of state action on the other, in matters of civil aviation, is not one which may be drawn with any exactitude in the absence of Supreme Court decisions dealing with this subject. How the cases will turn out is more or less a matter of "expert guess." But we have an indication of the probable approach of the court toward the issue when it arises. Justice Holmes, in a case where the sovereign State of Missouri challenged an act of Congress as an interference with rights reserved to the states under the Tenth Amendment made the following significant statement: "We must consider what this country has become in deciding what that amendment has reserved."[7]

No sounder rule of judicial interpretation has been laid down by our highest court than that which was set forth in the Missouri case. We may safely undertake to apply it to the problem before us; for we may be sure that the Court will consider "what this country has become" in the field of aviation in deciding jurisdictional questions which may arise; and we may be equally certain that this realistic view will aid in determining matters of policy in this field.

If we had before us a national air map, that map would graphically reveal, but only in part, "what this country has become" in the field of aeronautical activity. Less than four decades have passed away since the faith of two Americans proved the power of man to fly; yet that brief span has brought a development without any parallel in transportation history. We have seen an early American aircraft of primitive, amateur construction develop into

5. See two articles by the present writer entitled "The New Regulatory Policy Embodied in the Civil Aeronautics Act", Public Utilities Fortnightly, Vol. 9, Apr. 27, 1939, pp. 515-25; Vol. 10, May 11, 1939, pp. 597-604.

6. *Kansas* v. *Colorado* 206 U. S. 89-92 (1907).

7. *Missouri* v. *Holland* 252 U. S. 416 at 434 (1919). The Supreme Court has well asserted of the Constitution that: "It was made for an undefined and expanding future." 110 U. S. at 530-1.

a flying craft which today challenges the attention of the world. The small sheds where American airplanes had their beginnings have given way to vast manufacturing establishments where scientific research joins with engineering and mechanical skill to produce airplanes of unexcelled performance.[8]

We have seen come into being a vast network of federal airways, twenty miles wide and of unlimited height, marked by visible guide posts on the ground and invisible radio signals in the air. Those airways cross every state in the Union; they cover over 575,000 square miles; they traverse 28,745 miles in length and the network is growing at an unparalleled pace. Over those highways of the air more than 15,400 licensed planes are flown by 45,500 licensed pilots, and the number of planes and pilots is increasing at a rate greater than ever known.[9]

This was substantially the picture presented to the Congress at the time the Civil Aeronautics Bill was under consideration two years ago. Here was a new transportation, a transportation fundamentally different from any that had ever been known. The airplane was the only transportation machine which was not bound by the barriers of mountains or the shores of oceans, or the political boundaries of sovereign states. The Civil Aeronautics Act was drafted in the light of the facts of this new development. Its regulatory provisions were intended to meet realistically the necessities of civil aviation.[10]

Let us take a brief glance at the extent of that jurisdiction asserted by the Act. The regulatory jurisdiction, like that imposed upon the railroad industry, is of a two-fold character. First, it embraces the power to regulate the economic aspects of scheduled air transportation and other commercial services. In this respect it is concerned with the issuance of certificates of public convenience and necessity, the regulation of rates, services, consolidations, interlocking relationships and other subjects of economic control. Second, the Act provides for federal control of traffic and other operations, which may be described as "safety regulation." This includes, of

8. In matters of aircraft production, as well as operations, the ink is hardly dry on statistics indicating past growth before these figures are eclipsed by new records. Thus, in the case of factory working space devoted to airplanes, engines and propellers, we find 9,123,143 square feet in Sept. 1939; 16,703,230 square feet in Nov. 1940; and a predicted 33,370,822 square feet at the conclusion of existing expansion programs in 1942 (Aero. Chamber of Commerce Chart circulated Nov. 22, 1940). Among the valuable sources of comparative data are: Foreign Commerce Weekly Reports (U. S. Dept. of Commerce); Civil Aero. Journal (Civil Aeronautics Authority); The Aircraft Yearbook, and other publications of the Aeronautical Chamber of Commerce.

9. Civil Aero. Journal, October 15, 1940, pp. 454-5.

10. I have discussed these provisions in detail in "The New Regulatory Policy Embodied in the Civil Aeronautics Act", 23 Public Utilities Fortnightly, 515, 597.

course, the establishment and enforcement of civil air regulations, the certification of aircraft and airmen, and similar devices for achieving safe operation.

A question as to the economic jurisdiction of the Civil Aeronautics Board is now pending in the District Court of the United States for the Southern District of New York, in an action involving unlicensed operations of the Canadian-Colonial Airways. Since the Civil Aeronautics Board is a plaintiff in that case I believe it proper to avoid discussion of questions as to the Board's economic jurisdiction, now the subject of consideration by the Federal Court.[11] I shall confine my remarks, therefore, to the question of our safety jurisdiction.

As implemented by licensing and similar provisions, the Act provides for federal control over (a) all air transportation that traverses the vast system of federal airways; (b) all air navigation which directly affects or may endanger safety upon these airways; (c) all air transportation that carries the air mail, and (d) all air navigation which directly affects or may endanger that air mail transportation. It also extends to (e) the constantly increasing volume of unscheduled air commerce of an interstate character which operates outside the federal airways; and finally (f) to all air navigation that directly affects or may endanger the safety of this "off-the-airways" interstate air commerce.[12] Few, if any, federal regulatory statutes have been enacted with as broad a jurisdiction over an industry as that asserted in the Civil Aeronautics Act of 1938.

It will be apparent from this reference to the safety jurisdiction of the Civil Aeronautics Board that the boundaries of that jurisdiction must necessarily depend upon the particular facts of each case. Those boundaries are not all easy of ascertainment. The jurisdiction that concerns the federal airways should be comparatively easy to define because we know where the federal airways are located;[13] we should also be able, without difficulty, to determine the air naviagtion that directly affects or may endanger safety on

11. *Civil Aeronautics Board* v. *Canadian Colonial Airways, Inc.*, (D. C. S. D. N. Y., civil #10-381, filed Sept. 16, 1940). The action is brought pursuant to sec. 1007 of the Act, to enjoin air transport service conducted by defendant between New York City and Niagara Falls, N. Y., without the certificate prescribed by sections 401 (a) and 604 of the Act. Although the points served are both within the same State, it is alleged that defendant's carriage of passengers originating in, or destined to, other States constitutes "interstate air transportation", as defined. Also that the operation burdens air commerce within the doctrine of *Houston & Texas Ry. Co.* v. *United States* 234 U. S. 342 (1914).

12. Civil Aeronautics Act, section 1; see also the specific provisions for certificates in sections 601-610.

13. The federal airways are designated by the Administrator of Civil Aeronautics (in the Civil Aeronautics Authority) who has the responsibility for their establishment, maintenance and operation. Act, sections 301-2.

those airways. The difficulty arises when we undertake to determine the scope of the Board's regulatory power over air navigation not traversing federal airways. This traffic includes both a rapidly increasing volume of unscheduled, off the airways interstate flight, and such other intrastate air navigation as directly or potentially affects this off the airways commerce. Here is the twilight zone in the jurisdiction conferred by the Civil Aeronautics Act. Somewhere in that zone the power of the Federal Government theoretically ends and the exclusive jurisdiction of the state theoretically begins.[14]

The Civil Aeronautics Board does not undertake to say at this time where the boundary line of federal and state jurisdiction is located in that twilight area. That line must be located with reference to jurisdictional facts which are concerned with the volume, character and location of flying activities outside the federal airways, and those facts have not thus far been determined.

The Civil Aeronautics Board has proposed that this and other jurisdictional questions be made the subject of study by a committee to be composed of representatives of the National Association of State Aviation Officials, the Civil Aeronautics Board and the Administrator of Civil Aeronautics.[15] This jurisdictional committee would undertake to explore both the facts and the law upon which the respective federal and state jurisdictions must depend. It would act in an advisory and consulting capacity from time to time as specific jurisdictional problems may arise. By thus taking common counsel the Board hopes that the solution of jurisdictional problems in the common interest of all civil aviation may be realized.

What, then, is the proper field for state regulatory action? The Civil Aeronautics Board believes that if, upon investigation it is found that there are zones of aeronautical activity requiring public control which are not and cannot be covered by federal regulatory statute because of constitutional limitations, the states should exert their regulatory power to close the resulting gap in public regulation. In other words, if there is found to exist in the air space of the nation a "no-man's land" into which the Federal Government cannot, under the Constitution, enter, and in which the states have not exerted their power, then the states should

14. Cf. Stimson, "Federal and State Constitutions of the United States", Ch. III, and contrast the viewpoint of Corwin, "The Twilight of the Supreme Court", Ch. I (Dual Federalism).

15. This prosposal was made by the present writer on behalf of the Board and Administrator in the delivered address to the National Association of State Aeronautics Officials at Louisville, Ky., October 18, 1940. The Association has approved the plan.

exercise in that field a jurisdiction where the situation is such as to call for public control.

While Congress, in the Civil Aeronautics Act, may be found to have extended its jurisdiction over a larger part of the aviation field than was ever before occupied by the Congressional power, it by no means follows that the states have been excluded from participation in the development of American aviation. On the contrary, the states have a vital contribution to make, and the progress of this great industry can best be advanced by the states and the nation marching shoulder to shoulder.[16]

One important service which the states can render to aviation would be to provide assistance in the enforcement of the Civil Air Regulations relating to safety in flying. The extraordinary and unparalleled rate at which aviation is expanding is making increasingly difficult the problem of enforcing the Civil Air Regulations in the field of non-scheduled flying. During the calendar year 1939, one out of every ten non-air-carrier passenger flights which resulted in accident was a flight made in violation of our Civil Air Regulation prohibiting student pilots from carrying passengers. Student pilots during that year were responsible for forty-three percent of the fatal accidents in which passengers were involved. In other words, if it had been possible to obtain a one hundred percent enforcement of this one regulation, nearly one-half the fatal accidents involving passengers would in all probability have been avoided and twenty-two percent of the passengers who were killed might now be among the living. It would thus appear that the Civil Aeronautics Board and the Administrator are in a position to welcome the assistance of the states in the enforcement of the safety regulations.

In order to establish a legal basis for that assistance, it may be necessary for the states to re-enact the federal safety regulations and make them applicable to flying within the state, so that a failure to comply with the federal regulations would constitute a violation of state law.[17] The implementing machinery is expected to be the subject of consideration by the jurisdictional committee to which reference has been made. The Civil Aeronautics Board believes, however, that if it should be found necessary for the states to adopt safety regulations, those regulations should be the federal

16. It is significant that the Civil Aeronautics Act specifically recognizes state participation in matters of mutual interest arising under the Act. (Act, sec. 205 (b) ).

17. See, for example, the provisions made in the Pennsylvania Aeronautical Code, modeled in part on the draft of a Uniform State Aeronautical Code adopted by the NASAO (sections 301-2, Act of May 25, 1933; P. L. 1001).

regulations; there should be no variance between them. The Board believes this is necessary to insure that uniformity of regulation which is conceded to be essential to the well-being of civil aviation.[18]

Finally, the states have an opportunity to make a tremendously valuable contribution to the *development* of civil aeronautics. This involves more premotional than a regulatory function. It is concerned with the encouraging and fostering of activities for the advancement of aviation.

Thus, there is need for the development of a national system of airports. That objective calls for important legislative action by the states, such as legislation to enable municipalities and other political subdivisions of the states to establish, operate and maintain airports and to act in association with one another in the establishment of airports outside municipal boundaries; state laws to provide for state aid to airport development and to permit the acceptance of federal aid where such is provided; legislation for the protection of airport approaches against obstructions; and finally, legislation to insure the proper regulation of airports, especially with respect to their location.[19] Here again uniformity of law is desirable, and the Civil Aeronautics Board believes that the adoption of an adequate Uniform Airports Act will constitute an important step toward the promotion and development of civil aviation.[20]

The Civil Aeronautics Board is confident that these important problems can and will be solved in a spirit of cooperation and common purpose to advance American aviation. That confidence rests upon a sound foundation; knowledge of the spirit and character of

18. The Committee on Aeronautical Law of the American Bar Association in summarizing prior conflict of opinion concerning jurisdiction to regulate aviation has said: "There has, however, been one point in which all groups of the bar have at all times agreed, namely, that uniformity of law and regulations is desirable." (A. B. A. Journal, 1939).

19. Evolution of a national "system" is presently taking place principally by action of (a) the Federal Government, in allocating relief and defense funds to airport development (Pub. Res. No. 88, 76th Cong., Sec. 1 (c) - (d) and Pub. Law No. 812, 76th Cong.); (b) state aviation and planning boards (e.g. report to the Governor of Texas by the Texas Aeronautical Advisory Committee); and (c) municipalities, who act with a view to foreseeable local airport requirements (e.g. Master Airport Plan submitted Jan. 30, 1940, by the Regional Planning Commission of Los Angeles County to the County Board of Supervisors). Pursuant to sec. 302 (c) of the Act, an airport survey was conducted by the Civil Aeronautics Board and reported March 23, 1939 (House Doc. 245. 76th Cong. 1st Session). Legal problems concerning airport, enabling, zoning and planning legislation have received extensive discussion, and a considerable body of case-law has been built up. Cf. "Report of Committee on Airport Zoning" (1930) published by the Bureau of Aeronautics, U. S. Dept. of Commerce; Rhyne, "The Legal Experience of Airports" (1940) 11 JOURNAL OF AIR LAW 297; Hunter, "Airport Legal Developments—1940" to be published in the yearbook of the municipal law officers, "Municipalities and the Law in Action—1940" (in preparation).

20. The Uniform Airports Act, drafted in 1935 by the Aeronautical Committee of the American Bar Association, has been found inadequate in several particulars; e.g. provision for bonding, zoning, receipt of Federal aid, and joint acting by municipalities. The problem of adequate airport legislation is now under consideration by the Airport Section of the Civil Aeronautics Administration (the staff of the Administrator of Civil Aeronautics).

the state aviation officials.[21] No group in the United States contributed more of earnest effort to persuade the Congress to grant this broadest jurisdiction ever delegated to a federal agency. State regulatory officials, acting in the best of faith, have frequently urged against the assertion of broad federal jurisdiction over public service industries, fearing an encroachment upon state powers. But the Civil Aeronautics Act of 1938 had the unqualified support of the aviation officials of the various states who strongly urged the need for this legislation.[22]

There should not be permitted to grow up in this country a dual system of inconsistent and conflicting regulation to harass American aviation. It would be difficult to imagine a more unhappy fate for American aviation. As a lawyer engaged for more than two decades in the field of public utility law, the present writer was witness to the long conflict between the Federal Government and the states in the regulation of the public utilities and the rail transportation of this nation. Two systems of regulation, federal and state, grew up side by side, while the great public service industries that were regulated by them were burdened by wasteful duplication of regulation and by interminable conflict in the courts.

The Civil Aeronautics Board does not want to see flying in this country made less attractive and more costly by unnecessary regulation, by duplicate regulation, or by conflicting regualtion that leads to endless controversy. It believes that this will not happen if the leaders of aviation in the States and in the nation will join forces in a common cause to prevent it.

---

21. The proceedings of the National Association of State Aviation Officials abound with evidence of the objective viewpoint taken by its members on questions of jurisdictional policy in regulation; e.g. remarks of Fred L. Smith (1934) 5 JOURNAL OF AIR LAW 515 at 518; A. C. Blomgren (1934) 5 *id.* 585 at 588; G. R. Wilson (1938) 9 *id.* 4 at 8.

22. Cf. Smith, "The Program of the NASAO" (1935), 6 JOURNAL OF AIR LAW 480 at 483; Wilson, "Annual Report of the President" (1938) 9 *id.* 4 at 11. At its 7th annual meeting in 1937 the NASAO, giving "emphasis and concurrence to only one resolution directed toward the solution of the most outstanding problem of the day" went on record as favoring "national legislation which may look toward the ultimate goal of putting all governmental functions concerning civil aeronautics as far as practical under the jurisdiction of a single independent non-political body . . . Such a board or commission should have jurisdiction over all aviation matters, such as rate-making, certification of airmen and equipment, airport construction and foreign air commerce . . . " (with provision for consultation with the Post Office and State Departments). (9 *id.* 130)

# AERONAUTICAL LAW DEVELOPMENTS IN 1940

By George B. Logan

In this year, of all years, it would seem that the legal report would be particularly voluminous, in view of the fact that many laws have been proposed and some passed quite vitally affecting aviation.

But most of these come under the head of our national defense measures; many of them are in the legislative process and not finally passed; and those few which have been passed are as parts of other acts which come under the head of appropriation bills, etc., and these I have not had available for analytical study. I refer particularly to the recent appropriation for airports, which I have not yet been able to study.

However, two rather significant state laws have been passed, by Kentucky and Rhode Island, which will be referred to later.

In the field of decided cases, there have been some interesting developments, though nothing particularly startling. It would seem to me that the startling part of some of these cases has been the original conceptions of the litigants, or their excessive optimism in urging the points which were presented to the courts.

### Spychola v. Metropolitan Life Ins. Co.,[1]

The first case relates to insurance, a topic about which you have heard me talk often—I may say without hesitation—too often.

This policy had in it the familiar clause that the company would not be liable for death or injury to the assured "while participating in aviation or aeronautics, except as a fare-paying passenger." Mr. Thaddius G. Spychola became the operator of a gliding plane, and while piloting his own glider, it crashed and he was killed. Suit was brought by his administrator to recover against the Metropolitan Life Ins. Co. and the contention was made that the art of gliding was not a part of, nor included within, the words, "aviation or aeronautics."

I think it is hardly necessary for me to point out that the Court, unless very badly advised, could have reached no other con-

1. Sup. Ct. of Pa., May 6, 1940; 235 C. C. H. par. 535, p. 560.

clusion than the one it did; namely, that gliding was included within the meaning of the words, "aviation or aeronautics."

### REYNAUD V. MUTUAL LIFE INSURANCE COMPANY[2]

This case is illustrative of ingenuity on the part of the insurance company rather than on the part of the policyholder.

Mr. Arthur Reynaud took out this insurance while following the profession or avocation of a poultry raiser. The policy was taken out on June 22, 1933. However, the insurance company at that time was protecting itself against the increased hazard by providing in its policy that in the event the assured would actively take up aviation within a period of two years (as a student pilot or pilot), the policy should either become void or conversely should be limited in liability to the total number of premiums paid, plus interest. The exact language which the company saw fit to use in this case was:

> "This policy is free from all restrictions from aeronautics providing the insured does not make an aerial flight as a pilot or student pilot within two years after the date of issue, unless he shall have first given notice in writing and shall have paid an extra premium, as provided herein before such flight."

It was further provided, in the event this prior notice was not given and the prior premium was not paid, as follows:

> "If death occurs within such period or thereafter as a direct or indirect result of having made a flight as pilot or student pilot, then the policy shall be limited as I have heretofore stated."

You will note that this phrase starts out with an invitation by saying that it is free from restrictions from aeronautics, but ends up by slamming the door in the policyholders face, by taking away the benefits of the policy if the flight is made within two years.

That might be considered bad enough, but what actually happened was this:

Mr. Reynaud abandoned his poultry business long enough to become a student pilot within the two years period and made several flights as such. But nothing happened. In fact, nothing happened until October 9, 1938, when he was a full-fledged pilot, and at which time he crashed and was killed.

---

2. British Columbia Supreme Court, Oct. 3, 1939; 235 C. C. H. par. 531, p. 548.

The company, therefore, contended that because he had made a flight prior to June 22, 1935, which was two years after the policy was issued, and because he had subsequently been killed while making a flight on October 9, 1938, the beneficiary of the policy was entitled to only a return of the premiums.

To illustrate the Court's decision in this case, I want to give you a little background of insurance law. In the early days the insurance companies, that is, in the struggling beginnings, before they were financially strong and before state insurance commissioners and before sound public opinion took control of their business policies, waged a constant war with themselves in trying to fix up an insurance policy that seemed attractive to the insured, but at the same time legally removed most all risks. In other words, there was a constant fight between the sales end of the insurance business and the legal end, of which the policywriter was in the middle.

One of the favorite forms of the insurance companies was in the fire insurance policy, which insured against loss by fire and then, in the back of the policy, inserted a paragraph headed "conditions." One of the conditions, in the horse and buggy days, and in the coal-oil lamp days was this: "This policy shall be void if, during the policy period, there shall be stored on the insured premises any gasoline, coaloil, naphtha, benzine, etc., etc."

There was hardly a house in the United States that did not have in it coaloil for the lamps and gasoline for the cooking stove. And, of course, a great many fires resulted from the use of coaloil or gasoline. Wherever this occurred, the courts uniformly held that the insurance did not cover. But this did not satisfy the insurance companies. If a fire resulted from a careless child playing with matches or from an overheated stove, or any other innocent cause, the insurance company would make an investigation, and if they found out that there had been stored any coaloil or gasoline, the point was raised that immediately thereupon the policy had become void, and they would tender back the unearned premium to the date of the fire and deny liability.

The courts made very short work of this contention, as fast as it was made, until finally we find every state in the union condemning this attempted evasion of liability. And the holding of the courts was to the effect that this condition was not broken unless it was a cause of or resulted in the loss.

Apparently, this insurance company had this history in mind and sought to apply it to aviation.

Naturally, the court held in this case that if the death had been caused while flying during the two year period, the policy would have been void, but it also held that it was free from aeronautic restrictions after the two year period; that the death which occurred five years after the policy was issued had nothing to do with the breach of condition which took place in the first two years; hence. the assured was entitled to recover the full amount.

RICHARDSON v. IOWA STATE TRAVELLING MEN'S ASS'N.[3]

Mr. Charles L. Richardson was a Commissioner of Labor Conciliation in the Department of Labor. On the 5th day of February, 1938, he was ordered by his superior to proceed at once to Puerto Rico, to see if he could not render some service as conciliator to a long-shoremens' strike then in progress there. Arrangements were made with the Air Corps of the Army to fly Mr. Richardson to Miami, and on the night of February 5th, he took off from Langley Field with Major William C. Goldsborough as pilot. The flight was being made in a two-passenger Army ship and bad weather was encountered soon after leaving Langley Field. The weather was particularly stormy at 3,000 feet. The Major climbed to a higher altitude to escape the storm, but when he got there, found that the heater failed to operate and neither the Major nor his passenger could stand the intense cold at that altitude. The result was that they came down to 1,000 feet, where the weather was still stormy and where they encountered a bad ground fog.

By using the radio, they contacted Charleston and were told that Charleston was closed, but that there was a 1500 foot ceiling at Jacksonville. The Major kept on until they arrived over the airport at Jacksonville and found that Jacksonville had closed in. In fact, he descended to 300 feet, but was unable to see the ground. He cruised all night, in the neighborhood of Jacksonville, until daylight, and when daylight came the fog had not lifted and was still so heavy as to make it impossible to make a landing.

Finally, the Major, with his last bit of gasoline, took the plane to 3,500 feet and gave his passenger written instructions as to how to bail out. He had previously instructed him, he said, at the time the passenger got into the plane at Langley Field.

According to Major Goldsborough's testimony, his passenger and bailed out. Major Goldsborough watched him until he disclimbed up on the side of the cockpit, waved his hand in readiness appeared into the fog below, but at that time the parachute had not

3. Iowa Sup. Ct. April 2, 1940; 235 C. C. H. par. 534, p. 555; 291 N. W. 408.

opened. Major Goldsborough then bailed out and made a safe landing. When the body of Mr. Richardson was found, it was impossible to tell whether the parachute had failed to work or whether he had not attempted to open it.

The insurance in this case had a provision that the company would not be liable for death "in, on, or caused by any aerial conveyance." The contention of the policyholder was that at the time Mr. Richardson left the plane he was in perfect health and that death, therefore, had not been in an airplane, nor on one, nor caused by one. The Iowa Supreme Court did not waste much time with this argument; holding very clearly that the thing that took Mr. Richardson up into the air, as a result of which he met his death, was an aerial conveyance. The Company was held not to be liable.

THEODORE T. BROWN, v. C.A.A.[4]

We have had, during this past year, two cases involving Civil Aeronautics Authority regulations. I anticipate that there will be more of these as time goes on, as civil aviation grows, and as the C.A.A. aided by the State Aviation Officials, is able to bring more and more of their regulation violations to Court.

In this particular case, after a due hearing before a representative of the C.A.A., Mr. Brown had been found guilty of violating the traffic regulations of the Los Angeles Municipal Airport and of misusing an experimental aircraft. The penalty meted out to him was a suspension of his license for sixty days and the requirement that, at the expiration of sixty days, he should take a written examination on certain parts of the C.A.A. regulations and on the regulations of the local airports.

Mr. Brown appealed and filed, as is the usual case in appealing from the conviction under any sort of law, the requisite bond. The question then arose as to whether or not the filing of a bond would act as a "supersedeas." Mr. Brown moved the court to so rule that while his appeal was pending his license was not suspended and asked the court to hold that he still had the right to fly until the higher court should dispose of this case. The application for this order was made in the higher court to which the appeal was destined. The higher court held that normally the filing of a bond would act as a supersedeas, and would act as a supersedeas in this case, except that the sentence imposed upon Mr. Brown was not entirely punitive. It was both punitive and remedial. In other words, the Authority had said to him in effect: "Your license is suspended for sixty

4. U. S. C. C. A., 9th Circuit, June 7, 1940; 235 C. C. H. par. 2810, p. 2812.

days and in addition is suspended until you pass a satisfactory examination."

The Court, therefore, held that he was not entitled to fly until he passed the examination; that, pending the appeal, he could be relieved of the sixty day suspension, but could not be relieved of the requirement that he take the examination before he could fly. The Court thereupon directed the C.A.A. to give him the examination within five days and held that if the examination was passed, his suspension would be "superseded" until his appeal was determined. Otherwise, if he did not pass, he could not fly.

I might add, parenthetically, that, if the penalty imposed by the Authority had been a fine of $50.00 pending the appeal, with the proper appeal bond, the fine would not have to be paid nor could it be collected until the appeal was determined.

### Percy Rinehart v. Woodsworth Flying Service[5]

In this next case involving the regulations of the C.A.A., I would like to introduce a little past history of a legal discussion which took place eight or ten years ago and which is presumably now at rest.

When we were working on the possible forms of State Regulatory Acts, and when we had in mind the absolute necessity of uniformity between federal and state regulation, we gave a lot of thought to the method of keeping them uniform. It was proposed that the state law should carry a provision that all persons operating aircraft within the boundary of the state should operate same in conformity with the regulations of the Bureau of Air Commerce then or thereafter existing, and the failure so to do would be a violation of state law. This immediately met the opposition of those lawyers who realized that, by such a law, a state was adopting, before it was ever passed, a federal regulation and was making its citizens subject to criminal prosecution under the state law if they should violate a regulation which they had, as a matter of fact probably never seen and which a search of the state statutes did not disclose. This was truly a valid objection. It really amounted to an abdication by the state of its authority over aviation and substituted the authority of the Federal Government therefor.

Therefore, it was finally proposed that the problem could be met by giving to the state aeronautical body the right to regulate aviation within the state by requiring of the state body that its regu-

5. Sup. Ct. of West Va., July 11, 1940; 235 C. C. H. par. 2811, p. 2813. 9 S. E. (2d) 521.

lations, as promulgated, should coincide, insofar as possible, with the regulations of the Federal Government. This clause had two advantages over the prior suggestion. One was that you did not have to adopt in toto all federal regulations, but only insofar as possible, and the other advantage was that your citizens would not be guilty of violating a state law which they had never seen. In other words, there was no state law unless a regulation was promulgated by the state body. This, in substance, is the language used in the Uniform Regulatory Act adopted by this Association some years ago, and, in substance, is the language used in the Uniform Regulatory Act adopted by the American Bar Association.

Evidently West Virginia, in passing its law, used the prior method because West Virginia gave to its Board of Aeronautics authority over all aviation and required it to adopt and enforce the provisions of the Federal Air Commerce Act now in force or as hereafter amended. As a matter of fact, this was a sort of compromise because this had the advantage of causing regulations to be promulgated in West Virginia, but had the disadvantage of abdicating legislation to the Federal Government. However, the West Virginia Board of Aeronautics promulgated a rule that no person should land at an airport except in accordance with the Air Commerce Regulations. It so happened, however, that a commercial air meet was in progress at Elkins Municipal Airport, which was the home port of Mr. Rinehart's plane. The manager of the airport had, for the purposes of the meet, issued some local regulations governing landing. These regulations were not complied with by Mr. Rinehart, who was unaware of the local regulations.

Mr. Rinehart, in landing, complied with the regulations of the C. A. A. then in force. However, the defendant's plane, that is, the one owned by the Woodsworth Flying Service, landed in the opposite direction and in accordance with the local regulations.

In the lawsuit which followed from the property damage to the two planes, the defendants took the position that the plaintiff, knowing the meet was in progress, should have circled the field until he saw how the planes in the meet were landing. The court held, however, that the plaintiff's full duty was complied with by following the regulations of the C. A. A. and that the defendant was liable for the breach of these regulations and that the temporary regulations of the airport manager were no protection.

CITY OF ALBANY v. LEONARD BOL, ET AL.[6]

In view of the progress which is now about to receive great

6. New York Supreme Court, Special Term, May 2, 1940; 173 Misc. 1047; 235 C. C. H. par. 1830, p. 1865.

impetus as a measure of national defense in the building of new airports, I think we will all be interested in this decision. Not only are many new airports to be built, but many of them must be extended and many cities will very likely be face to face with the problem of either buying, leasing or condemning additional land.

The City of Albany, in attempting to extend its land, desired to acquire land which was not only outside of its own city limits, but was inside of the city limits of another municipality, the town of Colonie. Apparently, not being able to purchase this land by negotiations, the City of Albany filed a condemnation suit. Two of the land owners, Robert O. Hellwig and wife, contested the right of the city to condemn land outside of its own limits, and inside of another city, for airport purposes.

It was pointed out by them that the City of Albany was exceeding its statutory authority granted by Article 14 of the General Municipal Law (Chapter 169 of the Laws of 1928) and also the authority granted by Section 35 of the General Municipal Law, on the grounds that, although these acts allowed the erection of an airport, they contained no positive provision, right, or authority, to extend or enlarge the airport after its original construction; and particularly contended that they were compelled to stay within the original boundaries until they had sought and secured legislative sanction.

The court held that the right to extend is a necessary attribute to the original delegation of the legislative power of construction and operation. In deciding this case, the court quoted from the case of Hesse v. Rath, 249 N. Y. 436, which was one of the early cases legalizing the issue of bonds for airport purposes. I think it might be well to quote from this case as a sort of tribute to the genius of Mr. Justice Cardozo, who was then on the New York Court of Appeals before his service on the U. S. Supreme Court. In that case, Mr. Justice Cardozo said:

> "Aviation is today an established method of transportation. The future, even the near future, will make it still more general. The city that is without the foresight to build the ports for the new traffic may soon be left behind in the race of competition. Chalcedon was called the city of the blind because its founders rejected the nobler site of Bysantium lying at their feet. The need for vision of the future in the governance of cities has not lessened with the years. The dweller within the gates, even more than the stranger from afar, will pay the price of blindness."

### HOWARD, ET AL. v. CITY OF ATLANTA[7]

The Supreme Court of Georgia, in a decisoin handed down as late as July 16, 1940, had before it precisely the same point and reached the same decision. The necessity of expanding the airport of the City of Atlanta had arisen and apparently the only way to extend it was to a point within the limits of the City of College Park. Condemnation was resorted to for the purpose of acquiring title to some privately owned land and the point was made that the right of eminent domain, which the City was attempting to exercise, did not extend beyond the municipal corporate limits and could not be exercised within the limits of another municipality. This question of exercising the right of eminent domain by one city within the limits of another is pretty much of a tough legal nut to crack. Carried to its ultimate, it would be possible for one city to condemn all of the privately owned land within another city and thus deprive the latter city of the right to tax any of the land within its borders and hence destroy that municipal government.

However, the Supreme Court found that the Act of 1927, which expressly auhorized the City of Atlanta to acquire land for an airport, either within or without its territorial limits, contained within it the language which said that such airport should be "under the exclusive jurisdiction and control of the City and no city or town in which said land may be located shall have or exercise any police jurisdiction of the same."

It was also provided by the same Act that no other municipality or town, although the land may be located within its limits, should have "any authority to charge or exact any license fees or occupation taxes." The court held on the strength of these two provisions that it was evident that the functions of a Municipal Government in which the airport might be located should be restricted insofar as necessary for the maintenance and operation of Atlanta's airport, and that this necessarily included the right to expansion.

From the realistic standpoint, both of these decisions would seem to be well taken in the light of progress and in the light of Mr. Justice Cardozo's language, but they do seem to do considerable violence to our previous concepts of Municipal Law.

### BATCHELLER, ET AL. v. COMMONWEALTH, EX REL., ETC.[8]

This is a case which has great interest from the standpoint of the present student training program of the C.A.A., and also because

7. Georgia Sup. Ct., July 16, 1940; C. C. H. par. 1833, p. 1868.
8. Virginia Sup. Ct. of Appeals, Sept. 5, 1940; 235 C. C. H. par. 1934, p. 1875.

it raises again, in a different way, the old question of the "right of flight" as against possible nuisances, decreased land values, possible danger, etc. It was decided just recently by the Virginia Supreme Court of Appeals.

The University of Virginia desired to qualify itself for the giving of the aviation training made possible by the C.A.A. training program. There was no available airport at Charlottsville, so the University secured an option on a farm nearby, the farm having been approved as a site by the C.A.A.

The University of Virginia, of course, is a state institution, being supported entirely by public funds. There was no money available for immediate purchase; hence, the use of the option. Pursuant to the promise made by the Governor, the money was appropriated at the next session of the Legislature as a deficiency appropriation and the land was purchased.

The Rector and the Visitors of the University of Virginia then made an application pursuant to the provisions of the Virginia Code to the State Corporation Commission for a permit for the establishment, maintenance, operation, and conduct of an airport and/or landing field for the landing and departure of civil aircraft engaged in *"commercial aviation."*

The granting of the permit was opposed by several residents and land owner surrounding the proposed airport site. The objectors nearest to the airport lived one-half mile away and the others lived at various distances up to five miles. The particular objections raised are herewith summarized:

> "1. That the section surrounding the proposed site is residential, closely settled for a rural community, and that some of the finest houses in Albermarle county are in the immediate vicinity;
>
> 2. That the great attractions to the neighborhood adjacent to the proposed airport are the hunting facilities and its suitability for growing pedigreed horses, cattle, and other live-stock, and that the Keswick Hunt Club draws not only visitors for the season, but many permanent residents, greatly improving the value of property throughout the section;
>
> 3. That the noise of planes close to the ground in warming up, ascending and landing would be most objectionable and greatly affect the comfort and peace of mind of residents in the neighborhood, and would lead to a deprecia-

tion of property values for a considerable distance from the immediate area of the field proposed, and this would be particularly true if used as a student flying school;

4. That the menace of accidents which would most probably be incident to a school for flying would be a hazard which would affect the desirability of living in the area, and, therefore, property values would decrease disastrously in case of those owning property in the immediate vicinity of Milton and Shadwell;

5. That not very far from the University of Virginia there were other locations available, far less thickly settled, where land values are not so high, which could be used for the purpose of establishing a school for flying and where it would not constitute so serious a nuisance nor affect property values so considerably to the detriment of so many property owners and tax returns to the State and county."

Judge Fletcher, the Chairman of the State Corporation Commission, found all of these objections to be not well taken and in so doing quoted from Swetland v. Curtis, 41 Fed. (2d) 929 and from Thrasher v. City of Atlanta, 173 S. E. 817, in both of which opinions it had been held that an airport was not a nuisance per se, and in which it had also been held that mere apprehension of injury or mere depreciation in value of surrounding land was not sufficient grounds for the enjoining of the operation of an airport—which was a lawful business.

Judge Fletcher also pointed out in his opinion that another objection of the objectors was that no aircraft should be permitted to engage in commercial aviation in a section where there were so many "historic shrines." In response to this point, he pointed out that airports were now in operation at Washington, D. C., within a stone's throw of Arlington, the former home of General Lee and now the national cemetery, the Lincoln Memorial, the White House, and the Capitol, within a few miles of the restoration of Williamsburg, and at Richmond, where planes actually flew over the capitol of Virginia and the former capitol of the Confederacy, the original building of which had been designed by Thomas Jefferson.

The objectors had finally made two legal points, namely, that the Commission had no authority to grant the University the permit applied for and that the University had no authority to operate an airport such as was contemplated, particularly a commercial airport.

As to these, the Corporation Commission held that the Virginia law provided no person could operate an airport unless the permit

should be issued by the State Corporation Commission; that the Commission, therefore, had direct and exclusive jurisdiction, and that if the University had failed to get a permit it could not lawfully operate the airport.

It is also pointed out that the University was a corporation and had all the powers possessed by other corporations of Virginia and that it not only had the powers expressly conferred but that it had the implied power to do whatever is reasonably necessary to effectuate the powers expressly granted.

As to this, it was within its express powers to give an engineering and training course in aviation—in other words, teaching a new and very necessary science.

It was obvious that a complete course could not be given without an airport. It was also obvious that the University itself, through its own employees, could not give the flying training under the C.A.A. program, for this flying training was provided by the C.A.A. through its own selected and authorized training school and instructors. This organization, while doing this work, was engaged in "commercial aviation."

All of the foregoing reasoning of the Corporation Commission was adopted by the Supreme Appellate Court of Virginia and it was held that the objections to the granting of a permit were not well-founded and the order of the Corporation Commission was affirmed.

### Holmberg v. United States,[9]

There is one case to which I wish to call your attention, not so much because of its value to aviation law, but because it seems to me a good defense to business which has so often been accused of an unwillingness to wholeheartedly cooperate with Government, with the national defense, etc.

Mr. John B. Holmberg, of Minneapolis, had bid on a contract for some aerial survey work. On September 20th, he was advised by wire by the Government, that his bid was the low bid and to proceed with the work. Under his contract he had ten days in which to get his plane to the airport ready for service, fourteen days in which to take the aerial photographs and fourteen more days in which to make delivery of the pictures.

On September 28th, he was advised by the Chief Photogrammetrist that, under executive order of the President, he would be required to accept the provisions of the Bituminous Coal Conserva-

9. U. S. Court of Claims, June 3, 1940; 235 C. C. H. par. 4015, p. 4029.

tion Act of 1935. We presume it took him some two days to find out what these provisions were, but in any event, on September 30, he wired to the Chief Photogrammetrist that he would accept these provisions. On October 8th, he had his plane on the ground ready for work, but was delayed starting because of weather. In the meantime, he wrote to the Chief Photogrammetrist to ask him what would be considered the beginning date of his contract, whether the telegram of September 20th or the exchange of telegrams which terminated on September 30th. The Chief Photogrammetrist advised him that his starting date would be deemed to be September 30th. He was, therefore, on the airport in time.

However, the contract which the Government was to award him never arrived and he decided to wait until the Government actually signed the contract. On October 18, the Government mailed him a contract—not signed by the Government. Mr. Holmberg received it on the 21st, immediately signed it and returned it to the Government. It was signed by all the Government officials by November 5, but was not mailed by the Government until November 26th.

Mr. Holmberg then completed the taking of his pictures in fourteen days and shipped the finished photographs in less than the fourteen days. His total bill under his contract price was $2576.00. Upon the completion of the work, he was sent a check which was short exactly $1160.00. He had been penalized eight days for not having his plane at the airport within ten days after he had been notified by wire and forty-five days for not having the work done within the "contract" time.

He promptly, of course, filed a claim in the United States Court of Claims and the Court of Claims held that he was under no obligations to begin work until the Government had signed and sent him a contract, which was on November 26th, exactly sixty-five days after the first telegram. Accordingly, the Court of Claims held that he was neither late in having his plane at the airport nor was he late in completing his work and ordered the Government to pay the $1160.00 which had been deducted. Of course, what it cost Mr. Holmberg in time, worry and lawyer's fees to collect this money from the Government is not set forth in this decision.

### HARRY F. MILES, ET AL v. ADDISON W. LEE ET AL[10]

Both from the standpoint of the ingenuity and patriotism of the citizens of Louisville, Kentucky, and as an illustration of the pressure

10. Ct. of Appeals, Kentucky, Oct. 15, 1940; 143 S. W. (2d) 843.

of our defense program, I discuss this case, involving Bowman Field, Kentucky.

For some years the Louisville & Jefferson County Air Board (a body politic created by the Kentucky Legislature) which owned and operated Bowman Field, had considered purchasing a hundred acre tract adjoining the field. The price quoted (approximately $1,000. per acre) being considered too high, the purchase was not made.

The war department then prepared to erect hangers and barracks for housing two hundred officers and twenty-two hundred men if the Air Board would provide—at nominal rental, the necessary land. Desiring to aid the Government as well as to secure this cantonment the Air Board sought to bring it about.

Purchase was then impossible for the Air Board had no funds and the law prohibited the Air Board from borrowing money or mortgaging its property, and the State Constitution prohibited the Jefferson County Fiscal Court from pledging its credit beyond one year's revenue. (Taxes for 1940 had already been levied and were sufficient only for current needs).

Accordingly it was decided to condemn the land, which the Air Board conceededly had the power to do. However, condemnation awards, to give the condemnor title and possession, needed to be paid in cash. There was the rub.

It was probably Lieut. Al W. Near, Manager of Bowman Field, who worked out the plan which was followed, though this doesn't appear in the opinion.

The member banks of the Louisville Clearing House Association offered to pay the condemnation award to the land owners. The judgment in the condemnation proceeding was to direct that the deed to the Air Board reserve a lien in favor of the banks for this sum, with interest, all maturing in one year.

The members of the Air Board *individually agreed* to vote to cause the Air Board to request the Jefferson County Fiscal Court to levy taxes in 1941 sufficient to enable the Air Board to pay off the lien, and *individually* agreed that when the money was so received, to vote to pay it off.

The members of the Fiscal Court *individually* agreed to vote to levy a tax, if requested by the Air Board, in an amount sufficient to raise the money to enable the Air Board to pay off the lien.

It will be noted that neither body officially bound itself.

As soon as these agreements were made, and made public, the

condemnation suit was filed, and then followed the injunction suit to stop it all.

The injunction suit was filed by individual property owners who evidently objected to Bowman Field as a nuisance, and who objected to its enlargement and increased usage.

In addition to claiming that this elaborate scheme was after all and in fact a pledging of credit, and a creation of incumbrance, the plaintiffs claimed that the airport had become a nuisance and would soon be worse; and the extension should be located elsewhere. It was also alleged that the banks were violating the federal law, the state law, and their own charters in making a loan on unimproved real estate.

The holding of the Chancellor, and of the Appellate Court was, the Air Board had not mortgaged its property nor created a debt. It had simply acquired property subject to a lien. In effect it was an option to buy the land. The courts also held that the Fiscal Court had not pledged its credit—its members had simply "memorialized their intent". It was held that the judgment of the Air Board in selecting the site of Bowman Field also for its expansion, could not be questioned in this proceeding.

While a nuisance might be created it had been definitely authorized, as a matter of governmental policy by the act creating the Board.

If the banks were acting illegally or ultra vires this was not a matter in which the plaintiffs had no interest or standing in Court.

The order of the court was that the injunction suit be finally dismissed.

It is interesting to note that the agreement with the banks was made September 16, 1940, and the opinion of the Court of Appeals was handed down October 15, 1940. In the meantime the suit had been filed, heard by the Chancellor, decided, appealed from, briefed, argued, and decided by the higher court. This constitutes probably a new record for altitude of public enthusiasm and speed of performance.

### Kentucky Aeronautical Act

During the 1940 session of its legislature the State of Kentucky entered the ranks of those progressive states which are putting the force of State Governments back of civil aviation development.

The Act creates the Kentucky Aeronautics Commission and directs it to "in general promote the progress of aviation in the Commonwealth".

The Commission is to be bipartisan, consisting of three members of each major political party plus the Governor as Ex-officio member, and is a body politic, with the right to acquire, own and operate real and personal property and the right to sue and be sued.

This is rather a novel and, apparently, an effective method of creating a State Aeronautics Commission.

The members of the Commission are non-paid, but provision is made for appointment, with compensation, of an Aeronautics Director who is to be the executive officer of the Commission.

The law requires that aircraft be licensed and registered by the U. S. Government and that pilots be likewise licensed and registered. The Commission is authorized to promulgate air traffic rules and these rules are required to be identical and kept current, with those of the Federal Government insofar as applicable.

Criminal prosecution is provided for violation of any provision of the law itself or for violation of any of the air traffic rules with a peculiar limitation—that is that no one may be convicted by the State of an act or omission which violates the laws or regulations of the U. S. Government but this fact must be proven as a defense. The negative is not required to be proven by the State, hence the defendant in a State prosecution who is guilty of violating the State law or a State air traffic rule can clear himself only by proving that he is likewise guilty of a Federal offense.

One very helpful provision of the law is that the Aeronautics Commission is authorized to give advice and assistance, including technical services, and even financial aid to cities and other political subdivisions to enable them to acquire, construct or operate airports, landing fields or to enable them otherwise to "the development of aeronautics wtihin their limits".

This is a very broad and forward looking provision.

The Commission is also designated as the State agency to receive financial or other aid from the U. S. Government in the matter of building and improving airports within the State. In other words, the future airport program of the U. S. Government will, in Kentucky at least, clear through the State Aeronautics Commission. It would seem that if this were the law in all States it would save the Federal Government a great volume of unnecessary pulling, hauling and political pressure by the individual cities. Eventually this process would decentralize the work of the Civil Aeronautics Bureau and in its ultimate perfection would reduce from many thousands to forty-eight, the communities now personally contacting the Civil Aeronautics Bureau.

### Rhode Island Aeronautics Act

The Rhode Island Aeronautics Act, approved April 27, 1940, does not create an aeronautics commission, but sets up in the Department of Public Works an Aeronautics Advisory Board which functions as a unit independent of the Director of Public Works.

The Advisory Board consists of five qualified electors, at least four of whom shall have had practical knowledge of aeronautics or aviation. These members are appointed by the Governor for a five-year term, the first five being appointed for terms from one year to five, so that a new member is to be appointed for each of the next five years.

It is also provided that in the Department of Public Works there shall be an "Administrator of Aeronautics", who is to be a full-time official. The Administrator is appointed by the Director of Public Works, with the approval of the Governor. The real authority of the Act is vested in the Director of Public Works, who, with the approval of the Aeronautics Advisory Board, is to establish rules and regulations, air traffic rules, etc. It is required that these rules should be kept in conformity, as nearly as may be, with federal legislation and rules.

While the Act provides that the Director has the authority to promulgate these rules, and while the Act also gives to the Director "supervision of aeronautics within the state", the Act also recites that "said Administrator of Aeronautics shall exercise the powers and duties of the Department and Director relating to Aeronautics".

It is probably, therefore, correct to say that the authority of the Act is vested in the Administrator of Aeronautics.

Federal licenses are required both of pilots and of aircraft. Registrations of these licenses are required within the state.

In addition to supervision over aeronautics, the duty is definitely imposed upon the Director of Public Works to "foster aeronautics" within the state, and in so doing the Director is required to (a) encourage the establishment of airports and other navigation facilities; (b) make recommendations to the Governor and the General Assembly as to necessary legislation or action; (c) study the possibilities for the development of air commerce and the aeronautical industry and trade within the state and collect and disseminate information relative thereto; (d) advise with the Civil Aeronautics Authority and other agencies of the Federal Government in carrying forward research work and development work, etc.

The Act gives the Director power to conduct investigations not only of accidents occurring as the result of operation of aircraft.

but also concerning other matters covered by the provisions of the Act.

The duty is imposed upon the Director, and upon every state and municipal officer charged with the enforcement of state laws, to enforce and assist in the enforcement of the Act.

Authority is granted to inspect any premises, buildings, structures, aircraft, airports, schools, etc., wherever the Director deems such action necessary, and similar authority is given to close airports, schools, flying clubs, etc., until requirements laid down by the law have been complied with.

Penalties are provided up to $500.00, and imprisonment for not more than one year for violation of the Act.

The Act as a whole seems to be a very strong and effective means of aviation encouragement and development. Assuming that the real authority is invested in the Administrator of Aeronautics, who is required to be well-qualified in aeronautics, and assuming that there will be no conflict in authority between this officer and the Director of Public Works, who might not be so well-qualified, the Act seems to be well-suited to its purpose.

George B. Logan, 1940

# AIRPORTS AND NATIONAL DEFENSE†

By A. B. McMULLEN*

My subject, "Airports and National Defense" was selected not only because of the importance being stressed in preparation of this country for any emergency, but principally because of the language of the Act which made available the $40,000,000 for the improvement of civil airports.

The ill wind blowing across Europe has brought America sudden warning that a nation's superiority of air power is her best insurance against aggression. America is heeding the warning. Determined to escape the holocaust abroad, she is forging a national defense in which a basic element is an impregnable Air Force. Already huge sums have been appropriated for the purchase of thousands of airplanes and the training of thousands of airmen.

Building an impregnable Air Force, however, entails something more than manufacturing thousands of aircraft and training thousands of pilots and mechanics.

You in this Association know well, because you have preached it for years, that our great projected air force cannot do the job of defending this country if, at some crucial hour, it is stuck in the mud!

In other words, we know that any expansion of flying material and personnel must be paced by a similar expansion of adequate airports and landing facilities. They are the very nerve centers—the operating bases for all aviation activities.

It is encouraging to note that this sudden public realization that superior air power is the keystone of national defense is linked with a belated realization that adequate airport facilities are not only essential but indispensable in the development of *all forms* of aviation.

This realization recently has been reflected in Congressional action making available $40,000,000 to the Civil Aeronautics Administration for immediate airport development. Use of this money is restricted to "construction, improvement and repair of not to exceed 250 public airports" deemed most important in the scheme of national defense. These airports are to be selected by the Admin-

†Delivered before the Tenth Annual Convention of the National Association of State Aviation Officials, Louisville, Kentucky, October 18, 1940.
*Chief, Airport Section, Technical Development Division, Civil Aeronautics Administration.

istrator of Civil Aeronautics with the approval of a Board composed of the Secretary of War, Secretary of the Navy, and Secretary of Commerce.

Since national defense is the specified reason for this appropriation, it is only reasonable to assume that the recommendations of the Army and Navy will govern largely the airports upon which it is to be expended. However, I can assure you that an attempt will be made to select airports of greatest importance to civil aviation while providing the Army's and Navy's requirements.

This appropriation, as you know, will make a modest start on the job that must be done; but it will be only a start. I am sure most of you are familiar with what we feel to be the Nation's airport needs. The Civil Aeronautics Administration believes that in the near future there should be some 4,000 airports and landing fields in the United States and its possessions; and we estimate that the cost of building them would be about $558,000,000 exclusive of the cost of any land, buildings, or engineering and administrative overhead. In short, that amount is necessary for improvement of landing areas—grading, drainage, paving, lighting, and navigation aids where necessary.

I would not attempt to estimate the cost of the additional land required by such a program. You can guess as well as I, but it would be quite an item.

As to buildings, a recent survey by the Civil Aeronautics Administration leads us to believe that about 2,900 hangars and 1,400 other buildings will be needed within the next two or three years to provide adequate housing for civil aviation. And we figure that these buildings would cost in the neighborhood of $70,000,000.

I remind you of this formidable problem because you will have to help in meeting it by making the situation clear to the people of your respective states. Some unfortunate publicity has been recently given to our long-range plan which probably has embarrassed you, as it has the Civil Aeronautics Administration. It should be said that we did not release the details of our long-range plan including a list of some 4,000 airports to be improved or developed. We merely submitted it to a Congressional committee, upon request. However, the list got out, and it has and is going to confuse a great many municipalities and uninformed people who think that in some manner about 4,000 airports are going to be provided by an appropriation of $40,000,000.

Nevertheless, this appropriation is a start. We in the Civil

Aeronautics Administration believe it is much more important, much more significant, than its size would indicate.

This importance lies in Congressional recognition for the first time, by the actual making of an appropriation, that federal responsibility for an adequate airport system should and does rest with the Federal Government's aviation *officials,* to be coordinated with their programs for airways, air navigation aids, pilots, and aircraft.

I assume it is unnecessary for me to go into any particular detail with you concerning the desperate need for every usable airport we can get. You know the airlines have nearly doubled their business in the past two years. You know the Civilian Pilot Training Program, which did not even exist two years ago, now is operating on more than seven hundred fields. The Army and Navy have, or will in the immediate future, occupy about fifty civil airports with training or combat units. And you know further phenomenal expansions for the military services already are slated.

Knowing of these expansions, and in anticipation of some sort of an appropriation, the Civil Aeronautics Administration, the Army and the Navy rolled up their sleeves some time ago to clear the way for action. Naturally, you gentlemen who are responsible for aviation and airport development in your respective states will be interested in knowing what these conferences have developed, and just how the new airport program will be administered.

As the first step in setting up streamlined administrative machinery, Major L. D. Clay, Corps of Engineers, has been assigned to duty in the office of the Administrator of Civil Aeronautics. He will serve as Secretary to the Army-Navy-Commerce Board which will determine the priority of airports and landing fields to be developed, and as liaison officer between the Administrator and the various federal agencies.

The Airport Section of the Civil Aeronautics Administration which hitherto has been concerned with much research work, in addition to its routine duties of planning and directing airport development throughout the United States and its possessions, will be removed from the Technical Development Division and placed directly under the Administrator. This move is calculated to increase the speed of processing and clearing projects within the Administration. One unit of the Section will remain in the Technical Development Division to carry on development and experimental work connected with airport facilities, such as lighting, paving and marking.

With national defense the primary objective of the program,

it already has been decided at conferences of Army, Navy, and Commerce officials that three classes of airports will receive consideration for immediate development. They are:

1. Those located in the strategic areas where a large number of squadrons, groups, and other units of the air force might be based in any given military situation.

2. Civil airports that are now or will be occupied by training or combat units of either the Army or Navy air forces; and new airports necessary to relieve traffic congestion at these ports by separating military and civil activities.

3. A limited number of airports along the existing civil airways and proposed military air routes connecting the various strategical areas and the east-west coasts.

At the conferences which I have mentioned, considerable thought and study has been given to coordinating the development of both civil and military aviation, with a minimum of interference to each. As a result, several matters of policy have been agreed upon tentatively which will have a direct bearing on the future development and operation of civil airports. They are:

1. That no new airport should be developed within six miles, center to center, of any existing airport; or on, or within two miles of the let-down legs of a radio range or instrument landing beam, if within ten miles of the radio range station.

2. That municipal or civil airports occupied by *flight training* units of the Army or the Navy will not be regularly used by civilian aviation.

3. That municipal or civil airports occupied by the *combat or tactical* units of the Air Corps may be used jointly by the scheduled air carriers inasmuch as all combat aircraft are now equipped with two-way radio and are, therefore, subject to radio airport traffic control.

It is clear that carrying out these tentatively adopted policies will force civil aviation activities, particularly flight training, off many existing fields.

This may not be such cheerful news to some fixed-base operators and private flyers. It will probably result in some loss of income to them as well as many inconveniences. But I trust that the operators and pilots thus affected will consider:

First, that this inconvenience is part of their contribution to the national defense; and second, that they will find some ground

for optimism in the fact that the pattern of a national airport program is beginning to crystalize, even in the public press.

The occupation of civil airports by service squadrons and groups immediately provides the Administrator with two important jobs. The civil airports occupied or taken over by the military, together with all others that might be used in an emergency, must be expanded where necessary and many of them improved in such a manner as will permit continuous operations twenty-four hours a day regardless of weather or visibility. The second job necessitated by these agreed-upon procedures, will be development of new fields for displaced civil aviation activities. Federal authorities should, in my opinion, and I feel certain will, do everything possible to avoid more than temporary interference with local civilian flying.

Certainly any fair-minded person in civil aviation ought to realize by this time that Washington, particularly the CAA, has the welfare and the development of both the airlines and of private flying very much at heart.

You may be interested in what the Assistant Secretary of Commerce, Robert H. Hinckley, had to say just the other day to his new Aeronautical Advisory Council when it held its first meeting. He said:

"Our *first* obligation is to make the greatest possible contribution toward meeting this national emergency. That we are doing—and all civil aviation is doing.

"But we have a further duty to look beyond this emergency and plan the peace-time uses to which this new air strength will be devoted when sanity returns to the world.

"We must not waste this impetus. These factories and airports and skilled workmen must not fall into disuse. We must be ready with new work for them to do.

"For this is the aviation industry's first great opportunity to become the nation's new industrial frontier."

To me there is a very interesting phase of a long-time airport program about which little has been said or printed publicly. I refer to underground hangars. It is ironic that the airplane which freed man from the shackles confining his travels to the surface of the earth should, in turn, drive him underground for the protection of his life and property!

Information available in this country on the design of underground and bombproof structures is limited to relatively few engineers and architects. In view of this, an educational campaign on

the subject, including the lessons being learned daily in Europe, would seem appropriate.

As an illustration, in one small section captured and occupied by German forces in the first few days of the Battle of France, there were over sixty airports. These were all put out of commission during the first day of attack. No doubt many of the airplanes based on these ports were destroyed at the same time. Dispersion of aircraft alone is only partial protection against aerial bombs and chemicals.

Demolition and destruction of both property and life by bombing aircraft during the present war in Europe leaves no question as to the desirability of constructing bomb-proof structures. These should be fashioned to house not only airport activities, one of the first major objectives of a hostile air force, but they should be designed to shelter personnel, essential industrial activities, and supplies as well.

It is my conviction that far too little attention has been devoted in this country to the design and construction of such underground structures. The rolling and uneven terrain extending over large parts of the United States makes construction and camouflage of underground hangars possible near many existing or potential landing areas.

The time to build bomb-proof structures is before attack is anticipated. No commander is likely to waste many bombs on bomb-proof structures, and it is reasonable to believe that underground airports built in strategic areas now might tend to discourage future attacks. It is obvious, too, that aircraft could be repaired or serviced more efficiently by personnel protected from hostile air forces. Opposite these benefits looms the knotty question of cost.

Construction of underground hangars for airplanes with wing spreads up to 100 feet is not a serious problem. Dealing with new transport and military planes with wing spreads ranging up to 200 feet, and other proportionate dimensions, is more difficult. Many engineers insist that the cost of building underground storage facilities for them would be prohibitive.

Here's my own thought on that subject. It requires considerable time to build modern military aircraft, particularly our newest and largest bombers, the cost of which ranges from $300,000 to $500,000 each. To me the cost of underground hangars which prevented destruction of aircraft on the ground would seem justified, particularly in consideration of the time required to replace them

in an emergency, if the cost of the hangar did not far exceed the original cost of the planes.

The possible necessity for underground hangars and other shelters and the camouflaging of both shelters and landing areas should be kept in mind in selecting new sites and in preparing plans for the extension or improvement of existing airports.

To expedite the task of expending the present appropriation on those airports of greatest national defense value we are sharing our labors with others. The Civil Aeronautics Administration is receiving the most gratifying cooperation in this work from other Federal agencies such as the Forest Service, the Public Roads Administration, Work Projects Administration, the CCC, National Youth Administrations and others. No one can even estimate how far this help will "stretch" the $40,000,000 appropriation made available by Congress for the initial step of what we hope to be a long-range airport program.

And now a word direct to you State Aviation Officials. Many of you may soon be called into active service by the Army or the Navy. Others doubtless will be called upon to fill responsible positions in the Government or private industry. May I suggest that it is important that you leave in the hands of your successors a well prepared plan of airport and aviation development for your respective states? And where possible, train some one to fill your shoes if, and when, you leave.

Mutual assistance and close cooperation always have marked the relationship between the Civil Aeronautics Administration and the National Association of State Aviation Officials. It is more important and necessary now than ever before so that our civil aviation and military air forces may be provided with a system of airports, along with men and machines, that will assure America supremacy of the air. And I mean air supremacy not only for purposes of defense, but in the period after this emergency when civil aviation will reach heights of development that not even its best friends yet realize.

# AIRLINE AIRPORT CAPACITIES†

By Reed G. Landis*

My acquaintanceship with the National Association of State Aviation Officials dates from the first meeting held to discuss whether or not there should be such an organization. I am exceedingly proud of the fact that I played some part in putting the group together and served as a member of its first staff of elected officers. I know that it has contributed much to the progress of aviation in the United States during its lifetime and that it will continue to do so in the future. Those contributions have taken the form of original thinking and planning, of development of man power which has, in turn, been utilized by commercial and governmental organizations and by the equally valuable function of safety valve and brake on the unbridled enthusiasm and vision of some of us.

It seems to me that "airport capacity" obviously means the ability of an airport to do its job from the viewpoints of aeronautics, civics and economics. I have chosen to talk about airport capacities because in the minds of the general public their local airport symbolizes aviation, and what we say here about airport capacities may possibly apply to other factors of the aviation industry.

*The aeronautic capacity of an airport* is no simple matter, dependent as it is upon the area, its approaches, the equipment placed on and about it and human control exercised over its use. Most of these matters are subject not only to idealistic measurement and interpretation but to the very firm and inflexible economic law which prohibits a greater community development of resources than will produce for it. The physical things in connection with the aeronautic capacity of an airport are pretty well under the control of the Federal Government and in this manner we avoid conflict and duplication of regulations, rules and restrictions and achieve what is probably the finest system of airports any place in the world. Unfortunately, many of them have been outmoded in one way or another and must now be brought up to date to make usable the technical lessons learned as our industry has grown up. The control of the airports by their managers and the subordinates working under those man-

†Manuscript prepared by author from address delivered before the Tenth Annual Convention of the National Association of State Aviation Officials, Louisville, Kentucky, October 17, 1940.

*Regional Vice President, American Airlines, Inc.

agers varies as much as does the quality of the airport, but the overwhelming proportion of our airports are today quite well managed and with the rapid extension of air traffic control and tower control, with its accompanying radio installation in scheduled, unscheduled and military aircraft, we are achieving a good all-weather control which has contributed substantially to the growth of this industry.

*The civic capacity of an airport* is, to my mind, the ability of the airport to make available all of the benefits of aviation to the citizens of the community it serves. It is unnecessary to detail those, but I want to remind you again that they are in four general classifications. First, because of the extreme desire to survive, is the defensive value of military utility. Then follow the dual benefits accruing to the public, whether it flies or not. The other two are the obviously important economic and social advantages from scheduled and unscheduled operations.

Of the dual benefits gained by the public as a whole, the first is the recreational angle, proved by the fact that there are millions of people each week driving or otherwise going to their local airports to indulge themselves in the enjoyment of watching this new form of transportation perform. There is no question but that these people gain a broadened viewpoint and an inspiration which has value of an immeasurable sort in connection with their daily jobs. They see an industry, born in the minds of men who yet live, which has pioneered, and successfully so, into a new medium of travel. There is romance still in aviation for the layman, and I for one admit that there is romance in aviation for this old timer at least.

The other civic benefit gained by the rank and file who do not directly utilize air travel is premised on the fact that aviation is transportation and as transportation it contributes to the scale of living of all in the community it serves. This is both a threat and a promise—a promise because its proper application to the community life will enhance the scale of living of the community's citizens, and a threat because its absence or improper application in a community will mean that other communities competing with that one and having this modern tool available will forge ahead at the expense of those to whom aviation is not at hand.

This raises the question of air transport expansion. Scheduled operation now serves just over 200 cities. It is said that nearly 3,000 stops would be required if all our citizens were to have scheduled operations conveniently at hand. No one can now forecast the form in which this extended service will grow—but it is obvious that

airports will be involved. The Civil Aeronautics Authority has studied that airport development program. It has outlined a long range plan. That or a similar plan should be undertaken energetically. To the degree that any of our territory or our people suffer from the lack of modern transport, our nation suffers a reduction in efficiency—and these days we must achieve the utmost in efficiency in the world or suffer dire consequences of an appalling character socially, politically and economically. As transportation, aviation expansion is as vital in the solution of this generation's problems as any other single factor.

*The economic capacity of an airport* contains several factors. The intangible ones have been outlined above under our discussion of civic capacity. The tangible forces are largely a matter of bookkeeping and cover the age-old combative forces, costs and income. A modern airport capable of serving scheduled, unscheduled and military operations with all of the aids and facilities required for such service is no small undertaking, financially. The capital investment, with its interest and amortization, is an important factor in the city budget of any community. The maintenance and operating costs go up into many thousands of dollars, varying, of course, with the scale of operations and also to no small extent with the type of original installation and investment involved. The capacity of the airport to gain sufficient earnings to meet its expenses is the problem now facing almost all of us in aviation. If we are an airline operator we are faced with a desire on our own part to pay as much of our share of that load as we can possibly carry. If we are an airport manager we are endeavoring to balance our budget to the best of our ability. The income of an airport should be derived from those who benefit from its operation—the scheduled operators, the unscheduled operators, including military, and the general public, predicated on the extent of their operations at that airport. It appears that the most equitable method of determining such remuneration for scheduled operators is on the landing fee basis—a basis which gives the operator a known factor in his costs and gives the airport a distinct and real chance to improve its financial position as business grows. Certainly some similarly mutually equitable basis should be devised for unscheduled operations. The public who benefits and distinctly so, must also pay its share of the cost of the airport. There can be no argument on the question that the public is justified in receiving a bill for the recreational values it receives from the airport. This may be collected via taxes, sightseeing turnstiles, concessions or a combination thereof. It is sometimes argued that the operators should pay sufficient to carry the transportation value share of the

cost on the premise that railroad stations are built at the expense of railroads. There is no such general recreational value to a railroad station as there is to an airport. It is also true that air transportation is in much the same stage of development today that the railroads were many years ago. At that time in railroad history they were given very direct subsidies by federal, state and local governments to persuade them to bring their new transportation agency to the various communities involved. It is interesting to note that after such subsidy the facilities resulting were under complete private control—and such recreational features as might be involved were maintained for private rather than public gain. The reverse is true insofar as airports are concerned, with almost no exception. If such cost were borne by the airlines, it would of necessity be included in the cost of air transportation and the small air traveling segment of the public would be paying for the whole community benefit. A proper landing fee basis, plus concessions and spectator charges should eventually provide sufficient revenue for the airport to meet its maintenance and operating costs, leaving only the debt amortization and interest to be carried on the tax roll or via other income producing media.

There is another type of airport capacity which is interesting and important. It is the question of how much aerial operation any one airport can accommodate, and is any given community going to be properly served and for how long by one, or will it need more than one airport? We have made a careful study of this under the able leadership of our Vice President, Ralph S. Damon, and it is our conclusion that no one airport, no matter how large or how well equipped and laid out and operated, should be expected to accommodate more than 200 airline schedules per day. This total has been estimated on the basis of an hourly capacity with the knowledge that in most fields there is at least one peak hour during which approximately 12½% of the daily schedules arrive and depart. We believe that the hourly capacity of an airport should be set at about twice the capacity of that airport to accept and discharge aircraft in time of instrument approach. We believe that improvements in instruments and technique and ground provisions, such as parallel runways, may make it possible to land and discharge an airplane every 2½ minutes, allowing 5 minute interval between each landing and sandwiching the takeoffs in between. This gives 24 operations an hour, which when doubled, results in 48 operations, or 24 schedules. This means that in times of instrument approach there will be a normal delay of approximately an hour on some of the aircraft scheduled during the peak hours. This delay will be less in other

than peak hours and will, of course, disappear completely in times of contact flight. It appears probable that civilian unscheduled operations will continue to be light in instrument weather, but the presence of military units on transport airports introduces new and unsolved traffic problems.

We have gone a bit further with this study and believe that in 1945 there will probably be about 250% of 1940's schedules in operation and that 1950 will see about 400% of 1940's schedules. We have further estimated that the average passenger loading of airline aircraft in 1945 will be 20 people, rather than the 15 current this year and that in 1950 the average airplane will be loaded with about 25 people.

New thinking is required on the design of terminal buildings to handle anything like 200 schedules a day. If we have 48 planes to service in an hour with 20 minutes at the ramp, we need a minimum of 16 loading positions or gates. Coverage should be provided for extra sections, holds, etc., perhaps to the extent of 50%. Such positions should be capable of handling the enlarged aircraft which are bound to come within the amortization period of the building. Assuming the Douglas DC-4 aircraft as average size for that period, we will need about 24 times 130 feet, or 3,120 feet of ramp. There will be nearly a ton of passenger baggage in a DC-4 and probably 3 tons and 120 passengers on the next large ship developed. These loads, plus the mail and other cargo, raise serious problems of traffic separation and handling. Passenger convenience and service efficiency alone make it inadvisable to have either a straight or arc ramp of such length. Some interesting solutions are being developed and should shortly be put into construction.

The application of the various figures estimated above to the present schedules of any given airport should come pretty close to developing the date at which scheduled airline operations alone will fill the capacity of that field or its terminal and require additional facilities, either for additional air transport operations or to handle unscheduled operations, or both. It is, therefore, sound for all communities to now take a measure of their aeronautic facilities and if it appears that the capacity of their present airport or its terminal building will be reached within a few years, a major study should be effected and a long-range plan built to provide the facilities, including ground communications, which will be needed as the years roll by. If such a plan is prepared and aviation grows more rapidly than is estimated, this can be determined by periodic checks and the timing on the program speeded up.

I know of no organization which can contribute as much to the solution of the many-sided problem of future needs as can the National Association of State Aviation Officials. Through your membership you have intimate and frequent contact, not only with airport managers of the United States, but with the other public officials and civic groups to whom such projects should appeal tremendously. I urge each of you to give careful thought to this whole problem and to continue to play your able part in its solution in order that our nation may have always available to it at its maximum effectiveness the keen-edged social, business and defense tool of aviation.

# EDITORIALS

## TENTH ANNUAL MEETING N.A.S.A.O.

With this issue, the Journal again performs its "proud and effective" assignment of recording the convention proceedings of the National Association of State Aviation Officials. To publish all that transpired is impossible. Hence, from the record has been selected that deemed most noteworthy and of probable interest to the reading public. The carefulness and finesse of this selection must be accredited to the Journal's ranking editor, himself a member of the Association.

Largely, the papers delivered to the convention in past years have been a reliable barometer of things to come in the field of aviation. Doubtless those of this year do no less. The Association is to be commended for astutely avoiding simple regurgitation of past woes. Such an attitude is indicative of an organization composed of men characterized with imagination and ingenuity sufficient to allow adaptation to those exigencies characteristic of America's fastest developing enterprise. J. H. H.

## JURISDICTION SYNTHESIS FOR AERO-REGULATORY AGENCIES

In July of last year, this Journal invited comment on the question of federal versus state jurisdiction of air commerce. Source of such request was the contemporaneous publication of Mabel Walker Willebrandt's, "Federal Control of Air Commerce." Her position, to the degree she dared argue, was one for complete federal control. Rebuttal was not long forthcoming. Charles L. Morris, in the October issue championed state regulation in, "State Control of Aeronautics." Thus in the truly Hegelian sense of thesis, antithesis, the issue was presented. Yet worthy of note is the fact that, either out of diplomacy or sincere belief, both writers agreed that there was *some* need for *both* bodies of government to participate in air commerce regulation; this albeit the fact that they could not agree as to degree.

This thread of unanimity constitutes the keynote of the article appearing in this issue, properly regardable as the synthesis of the present conflict. Written by Oswald Ryan, it represents an official

commitment by the Civil Aeronautics Board, of which he is a member. His argument is not for exclusive jurisdiction in either body but for ***cooperation*** between the two for the air transport industry's welfare. Such a solution is sensible and practicable.

Sound discussion of this problem demands careful distinction between the question of how far federal control ***may*** go and that of how far it ***should*** go; i.e., law versus policy.

Legally, it is clear that Congress phrased the statutory definition of "Air Commerce" sufficiently broad to permit all federal regulation of intrastate activities allowable under the Constitution. Nor does the Constitution seem much of a bar for the Supreme Court has long recognized as to federal regulation of other forms of transportation, an area of influence doctrine inclusive of intrastate commerce. The Court is not likely to retreat merely because the doctrine is sought to be applied to a new form of transportation. No tribunal will be so blind as to overlook the enhanced importance of the safety factor in aviation.

But is this a question properly justiciable in a court of law? Does such a body possess instruments rendering it capable of settling the problem more effectively than those conversant with aviation's problems? Too much confidence has been placed in the efficacy of litigation. The issue here involved is one of policy. As such it is not primarily for the courts. Hence the present article is a step in the right direction. It offers conciliation and suggests some of the first steps in a program of cooperation. Such a policy should be encouraged.

J. H. H.

# STATE

## NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS

### TENTH ANNUAL CONVENTION, LOUISVILLE, KY.

### OCTOBER 16-19, 1940

### Organizational Officers for 1941

President..... DEXTER MARTIN
*Director of Aeronautics, State of South Carolina*

First Vice-President.....W. D. HAMMOND
*Chairman, Utah Aeronautics Commission, Utah*

Second Vice-President.....ASA ROUNTREE, JR.
*Director of Airfields and Developments, State of Alabama*

Third Vice-President.....A. H. NEAR
*Chairman, Kentucky Aeronautic Commission*

Secretary-Treasurer.....SHELDON B. STEERS
*Director, Department of Aeronautics, Michigan*

Legal Counsel.....GEORGE B. LOGAN
*St. Louis, Missouri*

### Regional Vice-Presidents

NE—CROCKER SNOW, *Commissioner of Aeronautics, Massachusetts*
SE—JACK PAULIE, *Director of Aeronautics, Tennessee*
EC—GEORGE C. ROBERTS, *Director of Airfields and Developments, Alabama*
NC—I. V. PACKARD, *Secretary, Nebraska Aeronautics Commission, Nebraska*
SC—HARLLEE TOWNSEND, *Director of Aeronautics, New Mexico*
SW—JOSEPH S. BERGIN, *Director, Utah Aeronautics Commission, Utah*
NW—W. H. HILL, *Director of Aviation, Idaho*

### Resolutions Adopted By The National Association of State Aviation Officials

### RESOLUTION No. 1

WHEREAS, the National Association of State Aviation Officials has long and consistently advocated an independent federal agency for the promotion and regulation of aeronautics;

BE IT RESOLVED that the National Association of State Aviation Officials go on record again as being unalterably opposed to any deviation from this principle, and in this connection we urge Congress to take such affirmative action from time to time as may be necessary to insure the complete independence of this branch of government;

AND FURTHER we urge Congress to always give full consideration to unusual character and extraordinary and ever-moving advancement of the art of flying, by never tying its control in whole or in part to other forms of transportation;

## RESOLUTION No. 2

WHEREAS, the evolution of the evil philosophy that generates the science of warfare has demonstrated the potency of a primary air arm of the military services;

BE IT RESOLVED that the Congress of the United States immediately create a separate and distinct air force with Cabinet representation;

## RESOLUTION No. 3

WHEREAS, in the opinion of this association the advancement of the art of military flying since World War I has made the Civilian Pilot Training Program, in its current aspects, of negligible value; and

WHEREAS, the present military operations of this country do not include or contemplate the use of aircraft of less than 200 H.P. which further emphasizes the deficiency of the program, and

WHEREAS, all air carrier operations, either scheduled or non-scheduled, require pilotage experience comparable to the military, which therefore makes it appear that the Civilian Pilot Training Program provided no reservoir for civil air commerce; and

WHEREAS, the interests of private flying are not best served under the present maximum age limit of 26 years;

BE IT FURTHER RESOLVED that to obtain the greatest military and commercial advantages, the program be geared to the above needs; and

BE IT FURTHER RESOLVED that, to obtain the greatest benefits to private flying, the maximum age limits be raised sufficiently to admit an increasing number of qualified citizens of non-college as well as college groups;

## RESOLUTION No. 4

WHEREAS, the development of airports throughout this nation, until very recently, has been accomplished only through the tireless struggle of civilian aviation personnel against the inertia of the public consciousness and the national leadership; and

WHEREAS, this airport development has been planned and prosecuted primarily to meet the needs of civil aviation; and

WHEREAS, these facilities are patently available for normal military use at all times, and for exclusive military use in time of national emergency; and

WHEREAS, no such national emergency has been declared which would justify nullifying the civil values of civil airports; and

WHEREAS, civil aviation is still the backbone of aerial national defense, and as such should be encouraged and developed to the fullest extent, as a necessary part of preparation for national defense;

BE IT THEREFORE RESOLVED that the National Association of State Aviation Officials deplores the current military trend to permanently curtail or temporarily eliminate civil aviation on certain civil airports of this nation; and

BE IT FURTHER RESOLVED that this Association believes the military services should proceed at once to the establishment of sufficient military airports with a view to returning to civil aviation the full and unrestricted use of such civil airports at the earliest possible moment; and

BE IT FURTHER RESOLVED that the president of this Association designate a committee to secure from the several Federal agencies complete cooperation to this end;

## RESOLUTION No. 5

WHEREAS, there are today two international air law groups; one, the International Commission for Air Navigation (commonly called CINA from the initials of its French name), and, two, the International Technical Committee of Aerial Legal Experts (commonly called CITEJA from the initials of its French name), both being the outgrowth of the Versailles Treaty and the League of Nations and both having their offices in Paris with European managing officers.

WHEREAS, CINA deals with public air law (pilot and aircraft certificates, et cetera), and, while the United States is not a member, it has entered into approximately one hundred public air law treaties from time to time which adhere to or strongly follow the CINA pattern.

WHEREAS, CITEJA deals with private air law (liability to passengers and shippers, to persons and property on the ground, et cetera), and, since 1935, representatives of the United States have officially participated in the deliberations of this group. To date the United States has ratified one CITEJA treaty, commonly called the Warsaw Convention and dealing with liability to passengers and shippers. CITEJA has eleven more treaties in process of drafting and revision or ready to submit. These treaties necessarily give primary consideration to European law and the proximity and natural enmity of the countries of Europe.

WHEREAS, the Constitution of the United States provides that treaties are part of the basic law of the land and that Congress has full power to legislate to the extent necessary to carry out treaty provisions for domestic purposes. The Supreme Court emphasized and clarified this in Missouri vs. Holland (252 U. S. 416) which upheld an Act of Congress giving Federal control over migratory birds, the basis for the legislation being the Migratory Bird Treaty between the United States and Great Britain and Canada.

WHEREAS, at Lima, Peru, in 1937, representatives of the United States and twelve South American countries adopted a resolution to create and maintain an air law group to function for the countries of the two American continents as to both public and private air law. The group will be known as the Permanent American Aeronautical Commission (commonly called CAPA from the initials of its Spanish name) and will come into being when at least seven governments of the American republics each create a national commission composed of "professors, jurists, and aviation experts", twelve months after which the first session of CAPA will be held at Bogota, Colombia. CAPA has not yet come into being nor has the United States named its national commission.

THEREFORE IT IS RESOLVED THAT the National Association of State Aviation Officials strongly favors the early naming of the national commission for the United States and the establishment of CAPA so that domestic air law

may continue to grow in the American manner, and so that international air law may be free from European domination, and further, we respectfully suggest that the President of the United States and the Secretary of State seek the cooperation of the various aeronautical organizations of this country in the naming of the commission for the United States and that the Department of State create and maintain a CAPA advisory committee with representation from such groups.

### RESOLUTION No. 6

WHEREAS, the Commissioners of Uniform State Laws and the American Bar Association, both by separate action, at their Annual Convention at San Francisco in 1935, approved a Uniform Air Regulator Act, and,

WHEREAS, this Act was, in substance and with slight variation, the same Act as was prepared and approved by this Association at its Annual Convention at Cheyenne, Wyoming, in 1934, and,

WHEREAS, the American Bar Association, at said time, authorized and directed the Commissioners on Uniform State Laws to urge the passage of the Uniform Air Regulatory Act by the several states, and,

WHEREAS, there are still a good many states which have not passed such acts and which, in the opinion of this Association, are needed for the proper aid, stimulus and regulation of airports;

THEREFORE, BE IT RESOLVED by this Association that we urge the American Bar Association and the Commissioners of Uniform State Laws to redouble their efforts to secure the enactment of this Act by the several states and offer to them all aid and assistance in our power to this end;

AND BE IT FURTHER RESOLVED, that copies of this resolution be sent to the President of the American Bar Association, the Chairman of the Committee on Aeronautical Law of the American Bar Association, the Chairman of the National Commissioners on Uniform State Laws, and the Chairman of the Aviation Committee of the National Commissioners on Uniform State Laws.

## NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS

PRESIDENT'S REPORT FOR THE YEAR ENDING OCTOBER 17, 1940

*Louisville, Kentucky*

DOUGLAS O. LANGSTAFF

The practice of submitting a formal report by your outgoing President on the preceding year's activities and accomplishments is, to me, the summary of the things that all of you have done individually combined with your President's viewpoint on these things.

Before embarking on a resume of the past year's activities, I would like to remind you, as we all have been reminded in the past few months, that we have necessarily been brought into the national defense picture so decidedly that we must put that picture foremost in our consciousness so that the great amount of assistance which we can lend in the defense program will be uppermost in our minds at all times.

While regretting the events in Europe that have awakened our country to the need of a definite national defense program of such magnitude as to make it unheard of for another nation to even consider any encroachment on our God-given rights, I feel that we in aviation should be thankful that our industry has received the impetus that it has needed for a long time. The United States is now air-conscious, and aviation is sold to the American public. Our job is to keep it sold, and if we fail we have no one to blame but ourselves.

While on the subject of national defense, I would like to remind you as State Aviation Officials that my experience in recent months has shown me that the tendency to forget civil aviation, unless it was definitely connected with the defense program, has been very decided. I feel that the responsibility for safeguarding civil aviation in our respective states should constitute a major part of our activities. Please do not misconstrue my meaning by feeling that I do not subscribe wholeheartedly to the national defense program because I most emphatically do, but in the enthusiasm to build up a defense program, I have seen otherwise farsighted men forget entirely the need for civil aviation. For instance, in several places around the country I have heard of and seen civil aviation crowded off the very airports they have helped to build, with no place provided for them to go. I hope I have impressed you with the necessity of giving every assistance you can to national defense, but at the same time let's be level-headed enough to protect civil aviation whenever possible.

Things have been happening the past few months in Washington with regard to civil aviation which have been so numerous and varied that I have neither time nor patience enough to recite them all to you. I will, however, give you a few of my impressions along these lines.

To begin with, all the effort that for years was put behind the formation of a separate aviation authority in our national government was declared null and void by the recommitment of the Civil Aeronautics Authority to the Department of Commerce. This was done over the protest of practically the entire aviation industry. For the first time, to my knowledge, we in aviation really got together, and even though we lost this particular fight I feel that we gained a whole lot by showing that when something of major importance comes along we have begun to think properly and constructively and will come out in the open with our opinions. The only way any industry can grow is to have all interested parties render constructive criticism at any time the need arises.

The Civil Pilot Training Program as instituted and operated by the CAA has been a boon to civil aviation. When I say civil aviation, I sincerely feel that civil aviation is the only branch of aviation that has profited by this program to date, for the following reasons:

First, the demand for planes of the particular type employed in this program has been such that the manufacturers have reached the point where they no longer have to depend on more and more capital being thrown into their businesses in the forlorn hope that some day or somehow the American public would be sold on the things they believed in by buying their planes in sufficient quantities to enable them to see black figures. They now are in a position to give us far better planes and are enjoying the volume of business they so justly deserve. For this, I thank the responsible party or parties in the CAA.

Second, the so-called commercial operator, and I say "so-called" because until the CPTP came along he was anything but a commercial operator, has

been able to make an honorable livelihood with CPTP as a back-log. He suffered the pangs of hunger for years before this blessing came along, but he is now a real commercial operator with all that the title should imply. For this, I thank the responsible party or parties in the CAA.

Third, the instructors employed in the operation of this program have demonstrated the fact that they are thoroughly competent to give the instruction necessary to qualify their students to meet the requirements laid down by the CAA. Practically all these instructors came up through civil aviation.

Fourth, the General Inspection Section of the CAA was of inestimable value in working wholeheartedly with the operators and instructors in such a way as to make this program click.

I give credit to the responsible party or parties in Washington for securing the necessary funds to make this program possible. But for the success of the actual program I must give full credit to, first, the General Inspection Section for its accomplishment of rerating the instructors and its cooperation generally to date; and second, to the operators and instructors on our various airports around the country. To me, these are the ones who are to be congratulated on the success of the program so far.

There have been rumors galore lately that CPTP is trying to take over the General Inspection Section. I can see no reason for such an action because the men who comprise the General Inspection Section, although woefully lacking in personnel, have through the years been largely responsible for the safety records established in private aviation. You may say that this record is nothing to be proud of, but I think when you consider the many angles attached to private aviation you will agree that the supervision of General Inspection has resulted in a very good safety record. What we need is an expansion of General Inspection and not a curtailment, which would certainly follow if taken over by CPTP.

The airport problem is still with us and will be with us for many years to come. It will necessarily be a continuous problem because as aviation grows, the need for more and better airports will also grow. The Airport Section of the CAA has been constantly at work trying to help us solve this momentous problem. The amount of money involved in the construction of an adequate national system of airports seems to be staggering, but we must all realize that these airports are a necessary adjunct to our economic welfare. We must continue to work, and work harder than ever before, to accomplish the construction of more and more airports. Congress has at last given an ear to the cry for money for airports by appropriating $40,000,000 for airport construction. While this was not by any means the amount hoped for, aviation has at last sold Congress on the necessity for direct airport aid. Let us continue to cooperate with the Airport Section in every way that we can, because on the whole they are doing a very good job.

There are numerous other things with reference to our activities individually and as an Association on which a report could be made, but I am sure that you would rather devote your time here in Louisville to a general exchange of ideas and discussions than to listen to a formal report by me. For instance, I feel that we should continue our efforts to have the resolutions adopted at last year's meeting result in things constructive. These and new resolutions brought in by your Resolutions Committee should be continually before you, and you should do all possible to accomplish them.

I hope that the seeming chaos in the CAB will soon be a thing of the past and that we all will be unified in our efforts to further aviation generally.

I want you to know that our good friend, George Roberts, as usual is due more credit than any of us for keeping the ball rolling in our Association, and I personally thank him.

I thank you for having given me the honor of being your President and hope that this Association will grow through the years, helping aviation and creating friendships that are as lasting as I have found them to be. Thank you.

## REPORT OF THE COMMITTEE ON AIRPORTS AND AIRWAYS

CHAIRMAN EVANS: The first thing scheduled on the program is my report, and that is going to be brief. I am going to file the main efforts, which is a copy of my report, or my hearing, before a Senate committee on last May 20. It comprises ten pages. This document which I know none of you want to listen to will be incorporated in the minutes.

It is the usual tale, the things that we have been talking about year after year, of the necessity for federal aid for airports. Thanks for the efforts of many of the organization, we have been able to get a little start. I believe no one can take full credit for it, but the combined efforts certainly got this $40,000,000.

This report was made by myself as the Chairman of the Airport Committee and also as the President of the airport division of the American Road Builders' Association which has done a great deal to get our foot in the door.

"STATEMENT OF FLOYD E. EVANS"

"MR. EVANS: The need and necessity of Federal financial aid for the construction, maintenance, and operation of aircraft landing facilities has long been recognized by State aviation officials, airport managers, and all others familiar with airport financing. Our State aviation officials probably were the first to take recognition and publicly express this fact. It is this group of persons who comprise the membership of the airport division of the American Road Builders' Association and we sincerely appreciate the opportunity of presenting our thoughts on this important subject before this committee.

"The first official action in support of Federal airport aid was taken by the National Association of State Aviation Officials at their third annual convention at Cincinnati, Ohio, in 1933. Copy of this resolution is herewith appended as exhibit A.

"No formal action was again taken by the Association until 1936 for the reason that beginning in 1933 the several Federal relief programs had been in progress and large sums of relief money had been expended on the development and improvement of airports and landing fields in all parts of the nation. Were it not for this aid our landing facilities would have been indeed in a very sorrowful condition. In fact, it is certain that our air transport system today would be almost paralyzed, for it was during this period that the DC-2 and DC-3 type of aircraft was put into operation by many airlines. This type of equipment required greater runway lengths than heretofore and few if any

cities, counties, or States were financially able to improve their airports commensurate with the increased requirements for safe air transport operation.

"It was during this period between 1933 and 1936 that many hundreds of new airports were developed at communities that had long required such facilities but could not afford the entire construction cost. It is true many needless fields, poorly planned and constructed were also developed. This was the result of the utter lack of any national airport plan.

"By 1936 the financial burden to local communities for airport construction and maintenance had again become acute for the reason that the greater portion of the work on the airport-construction program requiring a maximum of labor and a minimum of materials and equipment had been accomplished and we were getting into the type of construction that was requiring more materials and equipment, a large portion of which was required to be paid for by the local governmental units sponsoring the airport project. With the already existing tremendous burden of relief, communities absolutely were unable to carry their portion of the construction cost. As a result, there was a definite indication that the airport-construction program was soon going to slow up. Many projects were being suspended, due to the failure of the sponsors to provide their local contribution. Many very necessary and worthwhile airports today are in a semi-completed state because of this condition, and will remain so until more liberal Federal aid is provided. Many of our cities which have a large local investment in airports and had been scheduled air-line stops no longer have this service, due to the fact that these airports, which were once suitable for safe use by transport planes, are now unsuitable for use by present-day equipment. Further, improved landing facilities are likewise urgently required for the latest military type of aircraft, many of which use our commercial airports for training purposes.

"As a result of this condition, the National Association of State Aviation Officials, at their sixth annual convention at Hartford, Connecticut, in 1936, again took action by resolution requesting the Federal Government to establish a permanent Federal policy in regard to the installation and maintenance of airports. Copy of this resolution is also appended hereto as exhibit B.

"SENATOR CLARK: How many States have State aeronautical directors?

"MR. EVANS: There are approximately 22 States that have a State aviation agency. In many of the States it is handled by the highway commission; in others, it is handled by a railroad commission; and in some I believe the conservation commission handles it—but out of the group there are probably about twelve that have a definite set aviation agency where they are in a position to function as they should, comparable, we will say, with the State highway departments, which are well organized.

"Again in 1937 and in 1938 at the annual conventions of this Association resolutions were adopted requesting Federal financial assistance. Copies of these resolutions are also appended hereto as exhibits C and D.

"These several resolutions adopted by the State Officials' Association are not the expressions of a few individual State officials, but rather the expression of the citizens of the many States represented at the several conventions. It is certain that there is no aviation association that has so close a contact with local public officials, the aviation industry, and the taxpayers as does the National Association of State Aviation Officials, and I feel certain we have in our resolutions expressed the very definite opinions of these persons in

regard to the urgent necessity for a definite airport policy supplemented with financial assistance. As a further evidence of the public opinion in this regard, I respectfully refer you to copies of resolutions adopted by the United States Conference of Mayors (exhibit E), representing 190 of the major cities in the United States, and the resolution adopted by the American Municipal Association (exhibit F), representing 7,200 municipalities.

"SENATOR CLARK: Those organizations don't agree with the proposition of putting it under the States, do they?

"MR. EVANS: That is right.

"The American Legion at their annual conventions have adopted Federal airport-aid resolutions, as has also the National Aeronautical Association. Other organizations that have gone on record for airport aid are the Air Transport Association, the Aeronautical Chamber of Commerce, Interstate Airways Committee, the Airline Pilots' Association, Seaplane Flying Association, Private Flyers' Association, and the National Junior Chamber of Commerce.

"The American Road Builders' Association has felt so keenly the necessity of Federal and State cooperation in the development of a national network of airports that they recently formed the airport division of their association, feeling that the design and construction of airports was so closely related to the design and construction of highways that it would be advantageous to have a department within their association to coordinate the efforts of all airport-conscious individuals and associations. Furthermore, the American Road Builders' Association adopted a resolution favoring Federal appropriations for a national airport development program, a copy of which is appended as exhibit G.

"Further, the National Airport Advisory Committee established at a meeting called by the Bureau of Air Commerce in Washington on March 4, 1938, at which representatives of all of the above organizations were present and in addition representatives of the Army, Navy Commerce, and Post Office Departments were present, the following resolution was unanimously adopted:

"That it is the proper interest and responsibility of the Federal Government to plan, develop, establish, improve, operate, and maintain a national system of public airways and that the Federal Government be authorized to share within the limits of this or subsequent legislation with the various States, their political subdivisions, and the various political subdivisions of the United States the cost of establishing, constructing, improving, and maintaining publicly owned airports, landing fields, and seaplane bases to insure the safe and economic operation of aircraft.

"To date several Federal airport-aid bills have been introduced in Congress. Probably the most well-known ones were the Dingell bill and the Copeland bill. Neither of these bills were acted upon mainly because of the urgency for the passage of the all-important Civil Aeronautic Act of 1938, which contained only the provision for an airport survey and a request that the CAA submit a definite recommendation as to whether the Federal Government should participate in the construction, improvement, development, operation, and maintenance of a national system of airports.

"If participation was recommended the Authority was asked to define the extent and manner of such participation.

"In due time the recommendations of the Civil Aeronautics Authority were made to Congress. Briefly the recommendations were as follows:

"1. The development and maintenance of an adequate system of airports and seaplane bases should be recognized as a principle of national concern.

"2. Due consideration should be given to the development of facilities that were necessary for the safe and efficient operation of air transportation along the major trade routes.

"3. Federal assistance for airports should be continued through annual appropriations based upon annual reports showing the general status of the airport system.

"4. That $100,000,000 should be allocated from public works or work-relief funds and an additional $25,000,000 of supplemental funds be provided to enable the Federal Government to increase its share of the total expense beyond that which would be normally available under the relief programs.

"5. Applications for airport aid should be presented through State governmental agencies and that the priority given these applications should be determined by the existing aeronautical policy in the State in reference to such matters as State support of a coordinated system of airport development and the State's policy in respect to the employment of taxes collected on fuels used in aircraft.

"6. There should be no direct Federal contribution to the cost of maintaining airports other than Federal airports.

"I feel the Civil Aeronautics did an excellent job in this survey, and I generally concur in all of their recommendations. I do, however, feel that their recommendations for the allocation of funds for airport development under the relief program is not a satisfactory solution. I feel there should be earmarked funds allocated for Federal airport aid in a manner similar to the allocation of funds for highways and that these funds should be administered by a Bureau of Public Airports set up under the jurisdiction of the Civil Aeronautics Authority and operated in a manner similar to the operation of the Federal Bureau of Public Roads. A national airport plan should be developed through cooperation with the various States and the allocation of the funds be made in accordance with a specific formula. I feel very definitely that the work should be done on a contract basis and not with the exclusive use of relief labor. Wherever relief labor can be used to advantage, let it be secured as it is at the present time. This type of work, however, is very limited, for our development has now reached the point where the major portion of the work requires a great amount of material and equipment and a minimum amount of hand labor.

"Another point in which I take exception to the recommendations of the Civil Aeronautics Authority is in reference to the maintenance of Federal airports only. I do not feel that municipalities should be asked to maintain facilities that are of such apparent Federal significance. We must have uniformity in maintenance as well as construction and unless there is Federal responsibility, we will not secure this uniformity. The direct revenues derived from airports is so small that counties and cities will not maintain their facilities up to the standard required for safety. We have many evidences of that, Mr. Chairman, at the present time. The runway servicing has deteriorated; in some instances the lighting is not up to the standard that it should be, and

the community can just not carry the cost and bring those facilities up to the point where they should be for the maximum of safety.

"You realize, I am sure, that the cost of the establishment, construction, and maintenance of airports has up to this time been a responsibility mainly of counties and municipalities except for the work that has been done during recent years under the several Federal relief agencies. This work has been very splendid, but, due to the emergency nature of these programs, where relief labor, mainly of the hand labor type, was utilized the maximum of efficiency could not be secured. There has been an utter lack of Federal policy, and there has been insufficient thought given to the engineering and planning. One of the greatest drawbacks of the relief programs, of course, has been the limitations on the purchase of materials and the rental of equipment, but in spite of this limitation during the period of these programs there has been a tremendous amount of development in our landing facilities, but these developments have not kept pace with the more rapid development of aircraft used by our scheduled air-transport operators as well as aircraft developed by our Army Air Corps. Larger airports are now required than heretofore with longer and wider hard-surfaced runways, more complete drainage systems and more adequate field-lighting equipment, radio facilities for instrument landings and traffic-control equipment. All of these increased requirements have been far more than it has been possible to secure under our existing relief agencies.

"The result is that if our airports are to be adequate to safely accommodate our new, larger, faster, and heavier civil and military aircraft they must be continually improved and properly maintained. Further, there is still a lack of adequate airports in our larger cities. Less than 300 of our cities at this time have suitable facilities to accommodate scheduled transport equipment or the latest military aircraft. We have not yet hardly scratched the surface on our airport construction program. In total numbers we have less than 2,500 landing facilities in the United States, many of which are adequate for use by only the smallest type aircraft. The most conservative estimate establishes the number of landing facilities ultimately required at 3,500. Another estimated future total by a responsible authority calls for an excess of 5,000.

"The increasing acceptance of the airplane as a means of transportation makes it imperative that there be further improvements in our existing facilities and the construction of many additional ones. The American public has always and will continue to demand faster, safer, and more comfortable transportation. The 40 percent increase in passengers, mail, and express carried on our scheduled air-transport lines during 1939 over the previous year indicates the rapid acceptance of air transportation by the American public. With approximately 26,000 pilots today; 40,000 pilots probably by the end of this year; and 75,000 pilots within the next two years, in addition to the pilots required to man these 50,000 proposed military airplanes, it is very doubtful if we are going to have anywhere near the number of facilities required because there is certainly a limit to the number of planes that can operate from one facility.

"The greatest portion of aircraft operation in the United States at the present time is interstate in character. Every airport is of potential military value and all airports will eventually be utilized by air-mail planes. It is, therefore, a definite responsibility of the Federal Government to aid in the construction and maintenance of these landing facilities by participating in the

cost with the States and political subdivisions of the States in a manner similar to their participation in the construction of highways and waterways. The Federal Government makes the waterways safe for the operation of boats engaged in commerce, the carrying of the mail, and for use by our naval craft. The local government or a private interest builds the dock used for the actual loading and unloading of cargo. Airports are analagous in that the actual landing area constitutes part of an airway and is surely interstate in character. Likewise the field lighting equipment, radio, and traffic control facilities are urgently necessary for the safe operation of air commerce and air mail into and out of the airports. The area outside the actual landing area comprising the hangars, airport offices, depots, repair facilities, and so forth, is probably more intrastate in character and the local communities and private interests should furnish the greater portion of the cost of same except for such facilities required for housing Federal departments.

"The Federal Government has at all times aided in the conduct of commerce, aided in the carrying and distribution of mail and has at all times been attentive to those facilities which will aid in our national defense. Airports, as the most vital part of our air-transportation system, are truly as much entitled to Federal consideraion as are the highways and waterways. Our government has participated liberally in the construction and maintenance of these facilities and should now, without too serious consideration being given to the economic necessity of such aids, immediately establish a policy for participation in the construction, maintenance, and improvement of aircraft landing facilities—all matters of national defense. This matter of national defense today, of course, is a matter of utmost importance, and there is no argument whatsoever as to the need of a national program of airports for national defense. As Mr. Wilson has no ably stated, the personnel is one thing, equipment is another, and certainly the airports are the third portion of the chain of things absolutely required for the successful operation of a good, national air defense program.

"It may be difficult to prove the economic necessity for Federal participation, but just as Mr. Wayne Parrish, editor of American Aviation, has so ably stated:

" 'It is likewise difficult for a municipality to prove the economic need for water main, sewer, and electric distribution system for a proposed new sub-division, however, these facilities are installed and maintained because of the demand for the relatively few residents in that new area, and probably maintained at a loss until such a time as this new sub-division is developed and sufficiently habitated so that the use of the facilities which have been provided is of sufficient volume to show a return on the investment.

" 'In the days of the stage coach, our national economy progressed very slowly, because it was fettered by the heels of horses and could move no faster than the best means of communication then offered. The railroad brought tremendous advances, because the increasing tempo of their wheels provided a faster means for intercommunication. Shortly followed the telephone and telegraph permitting messages to be carried at the rate of 186,000 miles per second, and each of these advances has forced our national economy far above the heights it could have achieved under any previous methods.

" 'Now comes aerial transportation—the fastest means for personal intercommunication ever devised by man. On these new wings our ideas will be

able, almost overnight, to reach maturity and contribute to our growing national economy.

" 'Any national government is desirous of achieving as high a degree of prosperity as possible. This prosperity—this national economy—will grow only as rapidly as ideas can be put into active use, therefore, if a method is found by which this process can be accelerated the Government has a definite duty to stimulate this method in any way possible. Air transportation is just such a method for it makes possible the quickest personal communication yet conceived, therefore, it is a definite responsibility of our Government to take an active part in its development.

" 'The Government, and its political subdivisions, did not hesitate to deed millions of dollars worth of lands to the railroads in order that they might make possible a new era in our national economy, nor did they hesitate to build and constantly improve highways and waterways for the quicker transportation of persons and goods. It therefore is submitted that in the interest of a sounder national economy, in the interest of a faster rate of national growth, our Government should provide adequate and equitable aid for the construction, maintenance, and improvement of publicly owned airports throughout the Nation.'

"The urgent demand for Federal airport aid now exists. We know we must have airports in order to have an air transportation system and an adequate national air defense. We know that these facilities can no longer be provided and maintained solely by local communities. There therefore is only one conclusion, and that is that the Federal Government must take favorable action on airport aid.

"Precedents have been established by Federal support of all methods of transportation. Federal support has long been given to the encouragement and development of air commerce except for financial aid for the most vital part of the system. It is true we have been receiving assistance on construction during recent years through our Federal relief programs but the use of funds so expended has been done without any declaration of policy by the Federal Government that they feel their obligation to aid in this most important work. They have, however, very definitely acknowledged their responsibility for the promotion of air commerce when the Air Commerce Act of 1926 was passed and the Secretary of Commerce was directed to foster the development of air commerce. They have further acknowledged their responsibility for encouraging and fostering the development of civil aeronautics and air commerce in the Civil Aeronautics Act of 1938 in the declaration of policy wherein it is declared that the encouragement and development of air transportation is in the public interest. Further, the Administrator of the Authority established by this act is empowered to designate and establish civil airways, and within the limits of available appropriations made by Congress to acquire, establish, operate, and maintain along such airways all necessary air navigation facilities. From the very definition of 'air-navigation facilities' included in this bill landing areas are included. The Congress very definitely declared the establishment and maintenance of that portion of an airway known as landing areas as a Federal responsibility and I can see no alternative for your honorable body other than to follow the declaration of policy set up in the act and recommend the passage of the McCarran bill, S. 3620.

"We believe the provisions of S. 3620 are such that if passed by Congress,

a very definite policy will have been established by the Federal Government. We believe the sum of $125,000,000 is sufficient to get the work in progress on a national scale, but fully realize that this sum is far from sufficient to complete the national airport network. We believe the formula set up in this bill is satisfactory and that all States will share under the provisions of this formula very fairly.

"As to the allocation of funds being made through State aviation agencies, we believe this is the most practical method of distribution; however, if your honorable body feel that allocations should be made directly to political subdivisions, you can probably find sufficient precedent for such a policy and this method might prove satisfactory. It will, however, be a tremenodus burden on the Federal agency designated to approve projects and allocate funds if every town, city, and county in the United States is free to present their projects directly to this Federal agency rather than coordinating same through a State aeronautics department.

"Again I want to express the sincere appreciation of our association for the opportunity of presenting this testimony in support of this very important airport bill and very respectively recommend that same be approved by your committee.

"Mr. Chairman, that is generally the story. I feel as a State official—and I believe the oldest one in the service—that the State agencies must prove their worth. If it can be determined by the agency that is allocating these funds that allocation through States is a logical place, that is fine, we will do our best to see that that method functions. If it is a practical method to allocate through the municipalities, that is fine.

"I will leave these as exhibits showing what one State has done in connection with development work.

"SENATOR CLARK: They may be attached to the record.

(The charts are on file in the Committee on Commerce, as a part of the record.)

## EXHIBIT A

Resolution Adopted at Third Annual Convention, National Association of State Aviation Officials, Cincinnati, Ohio, 1933

"Whereas the safety and convenience of the public traveling in aircraft depends to a large measure upon a system of airways properly constructed and maintained, with frequent emergency landing fields; and

"Whereas the establishment of a unified system of airways linking principal centers of population and enabling safe air travel between them for both public and private ships, is a problem that demands the expenditure and efforts of the Federal Government and the individual States acting together; and

"Whereas it is necessary, in order to supplement the Federal Post Road Mail and Railroad Mail Service by providing State and interstate air-mail service, to have airways over which such coordinated system of postal transportation to all communities may be maintained; and

"Whereas the establishment of a national airway system is a problem similar in most respects to the establishment of a Federal highway system; and

"Whereas the latter is being so satisfactorily developed under the plan laid down in the Federal Highway Act of 1916, as amended by later acts: Be it

"Resolved by the National Association of State Aviation Officials, That this association approves of and urges the passage by the United States Congress of enabling legislation similar to hte Federal Highway Act providing for joint action by Federal and State Governments in the establishment, construction, and maintenance of a Federal State Airway System; and be it further

"Resolved, That copies of this resolution be sent to all Senators and Representatives in the Congress of the United States.

## EXHIBIT B

Resolution Adopted by the National Association of State Aviation Officials, Sixth Annual Convention, Hartford, Conn., 1936

"Whereas it appears that the development of aviation must inevitably be retarded by the continued present lack of navigational aids and of publicly owned airports and landing fields; and

"Whereas as adequate system of navigational aids along with publicly owned airports form a chain both necessary to the national life and beneficial to the connected local communities in the distribution of mail, the transportation of passengers and express, and as a network indispensable to the national safety: therefore be it

"Resolved, That the National Association of State Aviation Officials should urge the State representatives in the National Congress and the Federal agencies charged with those responsibilities to supplement their present navigational aids and develop publicly owned airports and landing fields, particularly along Federal airways; and be it further

"Resolved, That the National Association of State Aviation Officials urge the legislative representatives of the various States in the National Congress to develop a permanent Federal policy in regard to the installation and maintenance of such aids and airports.

## EXHIBIT C

Resolution Adopted at Seventh Annual Convention of the National Association of State Officials, Miami, Florida, 1937

"Whereas the National Association of State Aviation Officials since its inception has followed a policy of working in a strictly non-political manner for the advancement of aviation on the broadest and most permanent basis; and

"Whereas it is evident that under the Air Commerce Act of 1926 we have in this country advanced further and faster than has been possible in any other country on the globe in the development of aviation; and

"Whereas now that there is a growing demand for modernization of our aviation laws that must be met, it seems wise that the National Association of State Aviation Officials should break the precedent of passing various resolutions and should give emphasis and concurrence to only one resolution directed toward the solution of the most outstanding problem of the day; and

"Whereas the extensive study of the Federal Aviation Commission of 1934, the exhaustive hearings of the Copeland Senate Committee on Safety in the Air, and the recent painstaking analysis of the Committee on Civil Aviation legislation, together with many other aviation conventions and conferences leave no room for further investigation or delay; and after separating the grain

from the chaff and leaving political and selfish demands to one side, the same basic conclusions are inevitable; and

"Whereas it does not lie within our province to prescribe legislation in detail; and

"Whereas it is our duty to recommend the type of legislation in general: therefore be it

"Resolved, That with these explanatory remarks this association go on record as favoring national legislation which may look toward the ultimate goal of putting all governmental functions concerning civil aeronautics as far as practical under the jurisdiction of a single independent non-political body, which shall be required as far as may be practical to report directly to the President of the United States in all its executive functions and which shall in its judicial functions be reviewed only by the courts.

"Such a board or commission should have jurisdiction over all aviation matters, such as rate-making, certification of airmen and equipment, airport construction, and foreign air commerce except that the State Department and the Post Office Department should be conferred with no matters of foreign negotiations and the handling of the mail: therefore be it further

"Resolved, That this association emphatically recommends to the Congress and the President of the United States that the policy of making appropriations for airport construction should be continued and enlarged by further appropriations and that all such airport development work come under the jurisdiction of the independent board for commission recommended above.

## EXHIBIT D

Resolution Adopted at the 8th Annual Convention of the National Association of State Aviation Officials

"Whereas the National Association of State Aviation Officials at its Organization meeting in 1930 went on record as favoring the establishment of a comprehensive system of national airways, including airports, giving equal consideration to all sections of the country without regard to population density;

"And in 1933 the National Association of State Aviation Officials favored the development of such a national airway system under the plan laid down in the Federal Highway Act of 1916, as amended by later acts;

"And in 1934 the National Association of State Aviation Officials again recommended the same system and further recommended the amendment of the Air-Commerce Act to permit the lighting and maintenance of municipal fields with Federal Government money;

"And in 1936 the National Association of State Aviation Officials urged Congress to develop publicly owned airports to supplement navigational aids;

"And in 1937 the National Association of State Aviation Officials emphatically recommended to Congress and to the President the continuation and enlargement of the policy of making appropriations for airport construction and development, all to be under the jurisdiction of an independent commission; therefore be it

"Resolved, That the National Association of State Aviation Officials at its 1938 annual meeting repeats and consolidates its former declarations by

most emphatically urging upon the President, the Congress, the Civil Aeronautics Authority and its Administrator the desirability and necessity of Federal assistance and participation in the construction, improvement, development, operation and maintenance of a national system of airports, if aviation is to attain the place it deserves in the country of its origin and the domestic and foreign commerce, the postal system and the national defense are to be properly served and advanced.

## EXHIBIT E

Airport Resolution Adopted at 1937 Annual Convention of the United States Conference of Mayors

"Whereas there are 758 municipal airports now operating in the United States; and

"Whereas these airports constitute an important and vitally necessary unit of the aerial transportation system and of the aviation industry generally, rendering a public service of great benefit to the entire Nation; and

"Whereas the municipal airports are indispensable to the United States as a facility of national defense; and

"Whereas with the exception of such funds as have been made available under the various emergency relief programs, the burden of the cost of acquisition, construction, development, and maintenance of these airports has fallen almost in its entirety upon the municipalities, notwithstanding the national and extra-municipal scope of the service rendered to the public and the aviation industry by the said airports; and

"Whereas large sums have been, are now, and will be required in the future to keep the development of facilities of these said airports abreast of the progress and expansion made in the manufacturing and operating divisions of the aviation industry, and to insure the safe and efficient operation of all types of aircraft; and

"Whereas adequate funds with which to prosecute necessary and desirable improvement and expansion programs are not readily available from their own revenues to most of the municipalities operating municipal airports; and

"Whereas the restriction of development of ground facilities, resulting from the lack of such funds involves the safety of air transportation and threatens seriously to impede and hinder the continued advancement of aviation and of the service rendered the public by aviation; and

"Whereas the need of modern, improved ground facilities at airports is a continuing one, and one which, therefore, demands a permanent program of financing in order satisfactorily to meet conditions as they arise; and

"Whereas the Federal Government, recognizing the importance to the Nation of its transportation systems, has, as a matter of public policy, rendered financial and other assistance in the construction and development of the railroads, in the construction and development of marine shipping, in the construction and development of harbors and inland waterways, and in the construction and development of a national hihway system; and

"Whereas the adoption of a policy of Federal financial assistance and cooperation in the development of the public airports of the Nation would not, therefore mark any departure from establishing public policy, inasmuch as

safe and adequate airports are absolutely essential to the satisfactory functioning of aerial transportation: now therefore be it

"Resolved, That the United States Conference of Mayors petition the Congress of the United States to enact such legislation as is necessary and competent to provide for and authorize a permanent program of Federal Financial Cooperation in the construction, improvement, development, and expansion of publicly owned airports, to the end that adequate funds will be available, when needed, to carry on and complete such projects of construction, improvement, development, and expansion as are necessary to meet the requirements of public safety, public convenience, and the proper functioning of the aviation industry in its service to the people of the United States.

**EXHIBIT G**

American Road Builders' Association, National Press Building, Washington, D. C.—Federal Aid for Airports

"Whereas the rapid advancement in the design and manufacture of aircraft and of civil and military aviation in the United States has caused the art of flying to progress faster than the development of ground facilities provided therefor, particularly airports, and

"Whereas adequate airports are essential to the safe, efficient, and economical operation of aircraft and are necessary in the interests of national defense, the postal service, commercial and private flying, and the general public: now, therefore, be it

"Resolved: 1. That the Civil Aeronautics Authority be given authority to adminster Federal funds, to approve plans, and supervise construction of the airports comprising the national system.

"2. That annual Federal appropriations be provided for a national airport development and construction program.

"3. That all work incident to airport construction be based upon properly prepared plans previously approved by the Civil Aeronautics Authority, and that such work shall be publicly advertised for bids, and shall be awarded by contract to the lowest responsible bidder.

"4. That the American Road Builders' Association sponsor and promote complementary State or Territorial Legislation for the creation of State aeronautical commission to cooperate with the Civil Aeronautics Authority, to the end that orderly, long-range planning and development may be consummated.

"SENATOR CLARK: Thank you very much."

# CIVIL AIR REGULATIONS
# STATE OF RHODE ISLAND

RI.0 PROVISION FOR ISSUANCE.

Pursuant to the provisions of Sec. 11 of the Uniform Aeronautical Regulatory Act requiring the Director of Public Works, with the approval of the Aeronautics Advisory Board, to provide regulations for the purpose of safeguarding from accident and protecting the safety of persons operating or using aircraft and persons or property on the ground, and to develop and promote aeronautics within this state, the following air traffic rules relating thereto,

in addition to those prescribed elsewhere in the Rhode Island Civil Air Regulations, are hereby prescribed.

RI.3 FLIGHT RULES (general).

RI.30 PILOT CERTIFICATES. No person shall pilot a civil aircraft within the State of Rhode Island

(a) unless possessed of a valid state pilot registration certificate, or

(b) in violation of any term, specification or limitation of such certificate.

RI.31 AIRCRAFT CERTIFICATE. No flight of civil aircraft, other than of a foreign aircraft, shall be made or authorized to be made

(a) within the state of Rhode Island whatever the purpose or nature of the flight may be, unless such aircraft is possessed of a valid state aircraft registration certificate, or

(b) in violation of any term, specification or limitation of such certificate.

RI.310 No foreign aircraft shall engage in interstate or intrastate commerce; nor shall it be otherwise navigated in the state of Rhode Island except in compliance with the air traffic rules and the provisions of Part 65 of the Federal Civil Air Regulations.

RI.32 IDENTIFICATION MARK. No flight of aircraft shall be made or authorized to be made in the navigable airspace over the lands or the waters of the State of Rhode Island unless such aircraft is possessed of and displays a valid indentification mark assigned by the Government of the United States.

RI.33 TAKE-OFF AND LANDING.

RI.330 METHOD OF TAKING-OFF AND LANDING. The following rules shall govern the method by which aircraft shall take-off and land:

RI.3300 (a) Aircraft, when taking-off or landing, shall observe the local field traffic rules issued for the protection of interstate and foreign air commerce, as approved by the Director of Public Works.

RI.3301 (b) A take-off shall not be commenced until there is no risk of collision with other aircraft during such take-off.

RI.3302 (c) Aircraft approaching for a landing shall circle the airport or other landing area sufficiently to observe other traffic, unless the pilot receives other instructions from the airport traffic control operator. Such circles shall be made to the left unless the pilot receives other instructions from the airport traffic control operator or unless local traffic rules approved by the Director of Public Works provide otherwise.

RI.3303 (d) Aircraft approaching for a landing shall, unless impracticable, maintain a straight approach course for the last 1,000 feet before crossing the airport boundary.

RI.3304 (e) Aircraft making contact flights within 3 miles horizontally of the center of an airport or landing area shall conform to the circuit rule provided in RI.3302 unless flying at an altitude in excess of 3,000 feet above the ground or water.

RI.3305 (f) Air traffic departing from, or arriving at an airport designated as a control airport shall take precedence over other air traffic within the control zone of such airport when required in the interests of safety, and all traffic will be governed by special traffic rules approved by the Director of Public Works.

RI.331 RUNNING MOTORS, SUPERVISION OF. No aircraft engine shall be started or run unless a competent operator is in the aircraft attending the engine controls. Blocks, equipped with ropes or other suitable means of pulling them, shall always be placed in front of the wheels before starting the engine, unless the aircraft is provided with adequate parking brakes and the same are fully on.

RI.332 AIR MEET LANDING. In approaching a landing area where there is a congestion of aircraft or an assembly of persons or automobiles in the vicinity of aircraft, pilots shall proceed with caution and ascertain before landing, or before flying at low altitude over the landing area, whether or not an air meet or aeronautical demonstration is in progress.

RI.333 RESTRICTED AREAS. Aircraft, when taking off or landing over any restricted area, shall be flown in such a manner as to permit at all times an emergency landing outside of such area in the event of complete power failure.

RI.34 FLIGHT ENROUTE.

RI.340 RIGHT OF WAY. The following rules will govern aircraft right of way:

RI.3400 (a) ORDER. Aircraft in flight shall have right of way in the following order: (1) Balloons, fixed for free (an airship not under control is classed as a free balloon), (2) Gliders, (3) Airships, and (4) airplanes, including rotorplanes).

RI.3401 (b) CROSSING. When two aircraft are on crossing courses at approximately the same altitude, the aircraft which has the other on its left shall have right of way, and the other aircraft shall give way.

RI.3402. (c) APPROACHING HEAD-ON. When two aircraft are approaching head-on, or approximately so, and there is danger of collision, each shall alter its course to the right so that they will pass each other at a distance of at least 500 feet.

RI.3403 (d) OVERTAKING. An overtaken aircraft shall have right of way and the overtaking aircraft shall keep clear of the overtaken aircraft by alternating its own course to the right.

RI.3404 (e) LANDING. An aircraft landing in the manner prescribed in RI.3303 (d) shall have the right of way over other aircraft in flight or on the ground or water, except aircraft landing in distress.

RI.3405 (f) DISTRESS LANDING. An aircraft in distress shall have right of way in attempting to land.

RI.341 DUTY TO GIVE WAY. When landing or maneuvering in preparation to land, it shall be the duty of the aircraft at the higher altitude to avoid the aircraft at the lower altitude.

RI.342 RIGHT SIDE TRAFFIC. Aircraft making a contact flight along a civil airway in accordance with the provisions of RI. 4 of the R. I. Civil Air Regulations except when impracticable for reasons of safety, shall keep to the right side of such radio range course as is projected along tht airway. Except when otherwise specified in a flight plan, and except when impracticable because of any natural or other obstruction, aircraft making a flight along a civil airway in accordance with the provisions of 60.5 of the Federal Civil Air Regulations shall keep to the right side of, and close to, such radio range course as is projected along the airway: PROVIDED, that inbound aircraft may fly along the on course signal.

RI.343 PROXIMITY IN FLIGHT. No aircraft, other than military aircraft of the United States engaged in military maneuvers, shall be flown closer than 500 feet to any other aircraft in flight, except that by prearrangement with the Director of Public Works two or more civil aircraft may be flown in formation closer than 500 feet to each other.

RI.344 TRANSPORT OF PROHIBITED ARTICLES. No explosives, arms, or munitions of war or other materials deemed by the Director of Public Works to be dangerous goods shall be carried by or in any aircraft other than public aircraft or aircraft in which mail is being transported or arms are required, provided that the provisions of this rule shall not apply to persons lawfully carrying arms and ammunition for legitimate purposes, proper signalling or safety equipment (such as a Very pistol or landing flares) nor to the aircraft fuel, nor to materials for industrial and agricultural spraying (dusting).

RI.345 LIQUOR, NARCOTICS, AND DRUGS. No pilot or other member of the crew of an aircraft in flight shall be under the influence of, or use intoxicating liquor, cocaine, or other habit-forming drugs, nor shall such person carry any other person who is obviously under the influence of intoxicating liquor, cocaine, or other habit-forming drugs, except a medical patient under proper care, or in case of emergency.

RI.346 TOWING BY AIRCRAFT. The towing of aircraft by other aircraft or the towing of any device or object by aircraft is prohibited, unless permission therefor has been granted by the Director of Public Works: PROVIDED, HOWEVER, Such restriction shall not apply to military aircraft previously authorized by the appropriate governmental agency to make such flights in the public interest.

RI.347 DROPPING OBJECTS OR THINGS. No object or thing, other than fine sand, fine (#7 or smaller) lead shot, fuel, or water (all unconfined), shall be dropped or released from an aircraft in flight by any person on board the aircraft, unless permission therefor has been granted by the Director of Public Works. PROVIDED, HOWEVER, Such restriction shall not apply to military aircraft previously authorized by the appropriate governmental agency to make such flights in the public interest. The pilot or person in charge of the aircraft shall be responsible for the observance of this rule by all persons in the aircraft.

RI.35 MINIMUM SAFE ALTITUDES. Exclusive of taking off from or landing upon an airport or other landing area, aircraft shall not be flown below the following minimum safe altitudes of flight:

RI.350 (a) An altitude over the congested parts of cities, towns, or settlements, sufficient to permit at all times an emergency landing outside of such areas in the event of complete power failure, but in no case less than 1,000 feet above the ground.

RI.351 (b) An altitude over restricted areas sufficient to permit at all times an emergency landing outside of such restricted area in the event of complete power failure, but in no case less than 1,000 feet above the ground: PROVIDED, HOWEVER, that the Director of Public Works may authorize specific flights below such minimums in the public interest.

RI.352 (c) 1,000 feet above the ground over any penal institution or any open air assembly of persons.

RI.353 (d) 500 feet above the ground or water elsewhere than as specified

or within 500 feet from any mountain, hill or other obstruction to flight, except as may be specifically approved by the Director of Public Works: PROVIDED, HOWEVER, that seaplanes and amphibians may be flown below 500 feet but not below 300 feet, if making a contact flight during daylight hours over open water and where an emergency landing may, at all times, be made, without the aid of power, into the wind and without danger of collision with craft on the surface or other obstructions: AND PROVIDED, FURTHER, That the restrictions of this subparagraph shall not apply to public aircraft, previously authorized by the appropriate governmental agency, to make specific flights below such minimums in the public interest.

RI.354 (e) 1,000 feet above the ground or water, or within 1,000 feet of any mountain, hill or other obstruction to flight, if an aircraft is making an instrument flight as defined in 60.131 of the Federal Civil Air Regulations.

RI.36 PARACHUTES. No parachute shall be carried, available for immediate use as such, in any aircraft in flight unless it has been packed within the preceeding 60 days by a properly qualified parachute packer.

RI.37 LANDING FLARES. No aircraft shall be flown for hire at night beyond an area within a circle with a radius of 3 miles drawn from the center of the airport of take-off unless equipped with certificated landing flares as required in 04.512 (c) of the Federal Civil Air Regulations.

RI.4 FLIGHT RULES (CONTACT). In addition to general or special air traffic rules which apply, the following rules shall govern a contact flight in weather conditions equal to or better than those described in RI.44, within the limits of the State of Rhode Island. For flight in weather conditions worse than those described in 60.44 of the Federal Civil Air Regulations, and for flight in closer proximity to cloud formations than the distance prescribed in RI.44, the Regulations prescribed in 60.5 of the Federal Civil Air Regulations shall apply.

RI.40 UNASSIGNED.

RI.41 UNASSIGNED.

RI.42 FUEL REQUIREMENTS. No aircraft shall take-off without sufficient fuel and oil, taking into account wind and other weather conditions to be encountered during the course of the flight, to arrive at its point of first intended landing and effect a safe landing thereat.

RI.43 FLIGHT PLAN. No flight plan is required.

RI.44 WEATHER MINIMUMS. The following weather minimums shall govern flight made in accordance with contact flight rules: PROVIDED, HOWEVER, that a certificated controlman on duty in a control tower may, for reasons of safety, restrict or suspend contact flight operations within the Air Traffic Control Zone of said control tower: AND PROVIDED, FURTHER, That the Director may require higher minimums at any particular airport.

RI.440 WITHIN THE STATE OF RHODE ISLAND (DAY). Flight of aircraft shall not be made during the hours of daylight within the State of Rhode Island unless the ceiling is at least 800 feet (1,000 feet if precipitation is occurring in any form) and the visibility is at least 3 miles, and

(b) that such operator shall suspend contact flight operations within the control zone whenever in his opinion safety requires such action.

RI.441 WITHIN THE STATE OF RHODE ISLAND (NIGHT). Flight of aircraft shall not be made during the hours of darkness within a control zone

unless the ceiling is at least 1,000 feet and the visibility is at least 3 miles: PROVIDED, HOWEVER,

(a) that a certificated airport control tower operator on duty in a radio equipped airport control tower may authorize flight at or below 1,000 feet above the ground in the control zone for such control airport when the visibility is less than 3 miles but not less than 2 miles, and

(b) that such operator shall suspend contact flight operations within the control zone whenever in his opinion safety requires such action.

RI.442 WITHIN THE STATE OF RHODE ISLAND (DAY OR NIGHT BELOW OVERCAST). No flight of aircraft shall be made during daylight within the State of Rhode Island closer than 300 feet vertically to the base of an overcast or cloud formation, nor closer than 500 feet vertically if precipitation is occurring.

RI.46 OVER-THE-TOP FLIGHT. No flight of aircraft shall be made over broken clouds or stretches of solid overcast unless the altitude of the aircraft and its flight path can at all times be controlled by visual reference to the ground or water and ascent and descent can be made in accordance with the provisions of RI.443.

RI.47 FLIGHT ENROUTE.

RI.470 WEATHER CHANGES. If weather conditions below the minimums prescribed in RI.44 are anticipated or are actually encountered enroute, a landing shall be made at the nearest airport at which weather conditions are equal to or better than those prescribed in RI.44, or the flight shall be altered so that it may be made in weather conditions as good as, or better than, such minimums, unless such flight can and does proceed in accordance with the instrument flight rules prescribed in 60.5 of the Federal Civil Air Regulations.

RI.471 UNASSIGNED.

RI.472 UNASSIGNED.

RI.48 UNASSIGNED.

RI.7 ACROBATIC FLIGHT RULES.

RI.70 PROHIBITED ZONES. No person shall acrobatically fly an aircraft RI.700 (a) at any height whatsoever over a congested area of any city, town, or settlement, or over any open air assembly of persons, or over any airport or landing area or within 1,000 feet horizontally thereof, or within any control zone unless under the supervision of a Federal Aeronautics inspector observing flight tests and then only between 2,000 and 5,000 feet above the ground or water.

RI.701 (b) at any height less than 1,500 feet over any place over which flight is not otherwise restricted.

RI.702 (c) at any place unless the visibility is at least 3 miles and the ceiling at least 3,000 feet, and unless the pilot has first ascertained that there is no danger of collision with other aircraft.

RI.71 ACROBATICS WHILE CARRYING PERSONS. No person shall acrobatically fly an aircraft while carrying any other person or persons for hire: PROVIDED, HOWEVER, That this provision shall not apply to the giving of instruction in acrobatic flying to a person receiving dual instruction.

RI.72 EQUIPMENT FOR ACROBATICS. Each person in an aircraft flown acrobatically shall be properly equipped with a parachute manufactured under

a valid type certificate and maintained in accordance with the provisions of the Federal Civil Air Regulations, and RI.36 of the State Civil Air Regulations.

RI.73 PARACHUTE JUMP. No person shall make any exhibition, test, training or demonstration parachute jump, unless (a) a permit for said jump has been issued by the Director of Public Works, and (b) wearing a certificated and properly maintained auxiliary parachute so arranged that it can be operated if the first parachute should fail to function or become fouled. Whenever an auxiliary parachute is required, it shall consist of a single-harness pack.

RI.730 ALTITUDE BEFORE JUMP. No person shall make any exhibition, training or demonstration parachute jump from an altitude of less than 2,000 feet above the surface of the ground or water.

RI.731 DELAYED JUMP. No person shall delay opening his parachute more than is necessary to properly and safely clear the aircraft, which in no case, except in an emergency jump, shall be less than 1,500 feet above the surface of the ground.

RI.732 JUMP IN HIGH WIND. No person shall make any exhibition, test, training or demonstration parachute jump from any aircraft when the surface wind is more than 15 miles per hour.

RI.733 JUMP NEAR OPEN WATER. No person shall make any exhibition, test, training or demonstration parachute jump from any aircraft within 2 miles horizontally from any body of water, unless the jumper wears a flotation device approved by the Director and unless motor-powered marine rescue equipment is available.

RI.8 AIR MEET RULES.

RI.81 PERMIT REQUIRED. No air meet shall be held or conducted, or authorized to be held or conducted within the State of Rhode Island unless a permit for such meet has been issued by the Director of Public Works.

Signed FREDERICK V. WATERMAN,
*Director of Public Works.*

Approved: Aeronautics Advisory Board.
LEROY M. GARDNER, *Chairman*
WILLIAM F. HOEY, *Member.*
HUGH S. MCLEOD, *Member*
THOMAS HARRIS, *Member.*
MAURICE EIGHME, *Member.*

# RHODE ISLAND REGULATIONS

## GOVERNING THE FLYING OF AIRCRAFT MODELS

In accordance with the provisions of Section 11 of the Uniform Aeronautical Regulatory Act, the following regulations are hereby in effect governing the flying of aircraft models:—

1. RUBBER BANDS. Aircraft models, if powered by rubber bands, are exempt from these regulations.
2. AGE LIMIT. No person less than *14 years of age* shall fly, or cause to be flown, any free-flying aircraft model powered by other than rubber bands.
3. SIZE LIMIT. No person shall fly, or cause to be flown, any free-flying aircraft model powered by other than rubber bands, if such model weighs more than *seven pounds,* nor if it has a wing-loading of less than eight ounces per square foot.
4. LIMIT OF FLIGHT. A suitable automatic timer, set for a *maximum engine run of not to exceed 30 seconds* shall be installed on all free-flying aircraft models, other than those powered by rubber bands.
5. RADIO CONTROLS. If *radio control* is installed in any model, sufficient to control the aircraft at all possible distances from the transmitter, the restrictions in Sections 3 and 4 may be disregarded, provided, however: that the maximum gross weight does not exceed *25 pounds.*
6. SITES. No free-flying aircraft model, other than those powered by rubber bands, shall be flown *within 3 miles of any airport* (except as provided in Section 7). No such model shall take off from a point closer than *600 feet from any building or highway.*
7. AIRPORT FLIGHTS. Model aircraft may be flown from airports which do not accommodate scheduled air transport operations, provided that:—
   a. Permission in writing shall be secured from the Airport Manager or his authorized representative;
   b. All full-scale aircraft flights originating on the airport shall be suspended;
   c. No model shall be released for flight when any full-scale aircraft is in the vicinity of the airport.
   d. The automatic timer on the model shall be set for a maximum engine run of not to exceed 15 seconds;
   e. An area of approximately 500 feet square shall be set aside by the airport manager or his authorized representative, and shall be marked by suitable warning flags spaced not more than 75 feet apart;
   f. Said area shall be in a portion of the airport farthest from the portion that would be used by full-scale aircraft taking off or landing under the current wind conditions;

g. The take-off point of the models shall be at least 600 feet from any highway or buildings;

h. Not more than one such model shall be in the air at any given time, and the controls shall be so set that each such model will at all times during its flight remain within the airspace above the flagged area.

Signed: FREDERICK V. WATERMAN,
*Director Department of Public Works*

Approved: LE ROY M. GARDNER
*Chairman Aeronautics Advisory Board*
WILLIAM F. HOEY,
*Member Aeronautics Advisory Board*
THOMAS HARRIS,
*Member Aeronautics Advisory Board*
HUGH S. MCLEOD,
*Member Aeronautics Advisory Board*
MAURICE EIGHME,
*Member Aeronautics Advisory Board*

## APPLICATION FOR REGISTRATION OF FEDERAL AIRCRAFT CERTIFICATE AND FEDERAL PILOTS CERTIFICATE

Acting pursuant to the authority vested in me by the "Uniform Regulatory Act", particularly Section 7, and finding that this action is desirable in the public interest and is necessary to carry out the provisions of and to exercise and perform the powers and duties under said Act, I, the Director of the Department of Public Works, with the approval of the Aeronautic Advisory Board, adopt the following regulations:

### APPLICATION FOR REGISTRATION OF FEDERAL AIRCRAFT CERTIFICATE AND FEDERAL PILOTS CERTIFICATE

#### AIRCRAFT REGISTRATION

Application for the registration of the Federal Certificate for aircraft based in the State of Rhode Island shall be made upon the applicable form prescribed by the Director of Public Works and obtainable at the office of the Administrator of Aeronautics. The applicant shall produce with the application the Federal Certificate of the aircraft sought to be registered. Each registration shall be issued to correspond with the date of expiration on the Federal Certificate.

A registration certificate is not transferrable. Upon the transfer of ownership of an aircraft registered in the State of Rhode Island the registered owner shall endorse the registration certificate in the manner provided thereon and deliver said certificate on the date said transfer of ownership is made.

#### PILOT REGISTRATION

All pilots holding a Federal Certificate of Competency who operate aircraft in the State of Rhode Island as a base shall, prior to ( )

make application for the registration of said Federal Certificate of Competency upon the applicable form prescribed by the Director of the Department of Public Works and obtainable at the office of the Administrator of Aeronautics. The applicant shall produce with the application the Federal Certificate of competency sought to be registerd.

Each registration shall be issued to correspond with the date of expiration on the Federal Certificate of Competence and the cost of registration shall be one dollar for all grades of certificates.

It shall be the obligation of the holder of a Rhode Island Pilots Registration Certificate to notify the Administrator of Aeronautics in writing of any change in the status of his Federal Certificate of Competency on the date said change in status occurs.

Signed: FREDERICK V. WATERMAN,
*Director of Public Works.*

Approved: Aeronautics Advisory Board.
LEROY M. GARDNER, *Member.*
WILLIAM F. HOEY, *Member.*
THOMAS HARRIS, *Member.*
HUGH S. MCLEOD, *Member.*
MAURICE EIGHME, *Member.*

Form No. DA 101 1M—12-2-40

For office use only

| Department of Commerce License and Identification Number |
|---|
| State Number |
| Approved |
| Disapproved |
| Date of Expiration |

## STATE OF RHODE ISLAND
## DEPARTMENT OF PUBLIC WORKS
## DIVISION OF AERONAUTICS

### Application for Aircraft Registration

**All blanks must be made out in ink, or typewritten, or application will be returned.**

1. Is this a transfer, renewal, or new application.....
2. (a) **Name**.....
   (To be typewritten or printed)
   (b) **P. O. Address**.....
   (Street) (City or Town) (State)
3. (a) Place and date of birth.....
   (b) If a corporation, partnership, club, etc., names of President, Directors and Managing Officers.....
   .....
4. Description of aircraft: (a) **Name of Manufacturer**.....
   (b) **Name of Aircraft**..... (c) **Manufacturer's Model**.....
   (d) **Manufacturer's Serial No.**..... (e) **Date of Manufacture**.....
   (f) **Color of Fuselage**..... (g) **Color of Wings**.....
   (h) **Total time to date**.....
   (i) **Check Type:** Airplane ( ) Glider ( ) Dirigible ( ) Balloon ( )
   (j) **Check Style:** Open Cockpit ( ) Cabin ( ) Convertible ( )
   (k) **Check Model:** Landplane ( ) Seaplane ( ) Amphibian ( ) Biplane ( ) Monoplane ( )
   (l) **Seating Capacity:** Crew..... Passengers.....
   (m) **Gross Weight**..... (n) **Weight Empty**.....
5. Description of power plant: (a) **Name of Manufacturer**.....
   (b) Number of engines installed.... (c) Type and model of each
   .....
   (d) Date Manufactured..... (e) **Manufacturer's Serial No.**.....
   (f) **Number of Cylinders** (each motor).....
   (g) **Rated Horsepower** (each motor).....
6. (a) Has this aircraft been remodeled?..... (b) If so, give details
   .....
7. (a) Is their a lien against this aircraft?..... (b) If so, name and address of holder of lien.....
8. (a) Date purchased..... (b) Purchased from.....
   (c) Purchase Price when new.....
9. (a) Present base of Aircraft.....
10. Date of this application...Department of Commerce Certificate No....

**Fee $**..... .....

(Signature of Owner)

STATE OF RHODE ISLAND
COUNTY OF..... **ss.**

Subscribed and sworn to before me this....day of .....19...

.....
(Notary Public, Justice of the Peace)

Form No. DA 102 1M—12-2-40

**STATE OF RHODE ISLAND**
**DEPARTMENT OF PUBLIC WORKS**
**DIVISION OF AERONAUTICS**

| State No. ——— |
|---|
| Fed. No. |

## Application for Aircraft Pilot's License

(Make checks payable to General Treasurer, State of R.I.)

All blanks must be made out in ink, or typewritten, or application will be returned. Original applicants must answer all questions. Applicants for renewal or transfer may omit questions 12 to 18 inclusive.

All applications must be notarized.

Fees: All grades Aircraft Pilots' Certificate, $1.00

| For office use only |
|---|
| Approved For |
| Ratings |
| Base is For Limited Commercial |
| Date of Expiration |

1. Application is hereby made for.....Reg. Certificate
2. Is this a renewal new application or transfer?.....
   (Note: Renewal of certificate will be granted only for a certificate December 31, previous to the year for which renewal is requested.)
3. Last Rhode Island Certificate No..... Year?..... Grade?....
4. (a) Name .....
   (To be typewritten or printed)
   (b) P. O. Address.....
   (Street) (City or Town) (State)
5. Age..... Years..... Months
6. (a) Color of eyes..... (b) Color of hair..... (c) Sex.....
   (d) Weight..... (e) Height.....
7. Date of last physical examination for flying and Doctor's Name.....
8. Have you a waiver for any physical defect?....If so, what?.....
9. (a) Total number of solo hours..... (b) Solo hours in past twelve months..... (c) Solo hours in past six months.....
   (d) Solo hours in past thirty days..... (e) Total dual hours.....
10. (a) Do you hold a Federal certificate of Competency?.....
    Number?..... Grade?..... (b) Ratings.....
    Instructor's Rating? .....
11. (a) Has your pilot's license or certificate ever been suspended? (Federal)..... (State).....
    (b) If so, give details.....
12. (a) Place and date of birth..... (b) Race.....
    (White, Negro, etc.)
13. Names and types of aircraft that you have flown.....
14. Experience and training on aircraft engines, giving types with which familiar and length of experience on each.....
15. Air courses attended..... .....
16. Are you familiar with the aircraft laws of this State and the U. S. Civil Air Regulations?.....
17. Where and by whom instructed?.....

**Dated**..... .....
(Signature of Applicant)

STATE OF RHODE ISLAND }
COUNTY OF..... } ss.

Subscribed and sworn to before me this....day of.....19...

.....
(Notary Public, Justice of the Peace)

# FEDERAL

## DEPARTMENT OF COMMERCE
## CIVIL AERONAUTICS ADMINISTRATION
## WASHINGTON

### UNIFORM AIRPORT ZONING ENABLING ACT
**(Preliminary Draft, November 12, 1940)**

AN ACT declaring certain structures and other objects within the aerial approaches of airports of the public utility class to be airport hazards and as such not in the public interest; empowering and directing the State Aeronautics Commission (or the State Director of Aeronautics, the State Planning Board, or other official or agency of the State Government, as the case may be) to prepare airport approach plans for such airports, indicating the approach protection necessary; empowering and directing municipalities and other political subdivisions to promulgate, administer, and enforce airport zoning regulations limiting the height of structures and objects of natural growth, and otherwise regulating the use of property, in the vicinity of such airports; authorizing the acquisition, by purchase, grant, or condemnation, of air rights and other interests in land in cases in which the desired result cannot be obtained by regulation; prescribing certain standards and principles to be followed; making provision for notice, hearing and appeal and prescribing the procedure governing the adoption of airport zoning regulations, applications for permits and variances, and judicial review; and providing penalties and remedies for violations of this Act or any ordinance or regulation made under the authority conferred thereby.

Be It Enacted by the General Assembly of the State of————————:

SECTION 1. DEFINITIONS. As used in this Act, unless the context otherwise requires:

(1) "Airport" means any area of land or water usable for the landing and taking-off of airplanes.

(2) "Airport hazard" means any overhead power line which interferes with radio communication between an airport of the public utility class and airplanes approaching or leaving same, or any structure or object of natural growth which obstructs the aerial approaches of such an airport or is otherwise hazardous to its use for landing or taking-off.

(3) An airport is of the "public utility class" if it is available to and utilized by the general public for private flying or otherwise as a point of arrival or departure by air.

(4) "Commission" means the State Aeronautics Commission (or the State Director of Aeronautics, the State Planning Board, or other agency or official of the State Government, as the case may be).

(5) "Person" means any individual, firm, co-partnership, public or private corporation, company, association, joint stock association or body politic, and

includes any trustee, receiver, assignee or other similar representative thereof.

(6) "Structure" means any object constructed or installed by man, including, but without limitation, buildings, towers, smokestacks, and overhead transmission lines.

SECTION 2. AIRPORT HAZARDS NOT IN PUBLIC INTEREST.

It is hereby found and declared that an airport hazard endangers the lives and property of users of the airport and of occupants of land in its vicinity, and also, if of the obstruction type, in effect reduces the area available for landings and taking-off, thus threatening and perhaps destroying the utility of the airport and the public investment therein, and is therefore not in the interest of the public health, public safety, or general welfare.

SECTION 3. PREPARATION OF AIRPORT APPROACH PLANS.

The Commission is hereby empowered and directed to formulate, and revise from time to time, as may be necessary, an airport approach plan for each airport of the public utility class in the State, which plans shall indicate, in each case, the circumstances in which structures and objects of natural growth are or would be airport hazards, the area within which measures for the protection of the airport's aerial approaches should be taken, and what the height limits and other objectives of such measures should be. In preparing any such plan, the Commission shall take into consideration, among other things, the character of the flying operations expected to be conducted at the airport in question, the nature of the terrain, the height of existing structures and objects of natural growth above the level of the airport, and the possibility of lowering or removing existing obstructions, and the Commission is hereby empowered to obtain and take into consideration the views of the Civil Aeronautics Authority, or such other agency of the Federal Government as may be charged with the fostering of civil aeronautics, as to the aerial approaches necessary to safe flying operations at the airport in question.

SECTION 4. PROMULGATION AND ADMINISTRATION OF AIRPORT ZONING REGULATIONS.

Every municipality and county or other political subdivision having within its territorial limits an area within which, according to an airport approach plan formulated by the Commission pursuant to Section 3 hereof, measures should be taken for the protection of airport approaches, is hereby empowered and directed to promulgate, administer, and enforce, under the police power and in the manner and upon the conditions hereinafter prescribed, airport zoning regulations applicable to such area, which regulations shall divide the area into zones or districts, and, within such zones, specify the land uses permitted, regulate and restrict the height of existing and future structures and objects of natural growth, and impose such other restrictions and requirements as may be necessary to effectuate the Commission's approach plan for the airport in question.

Any zoning or other regulations applicable to any such area, including not only any airport zoning regulations adopted under this Act but any zoning or other regulations dealing with the same or similar matters, that have been or may be adopted under authority other than that conferred by this Act, shall be consistent with, and conform to, the Commission's approach plan for such area, and shall be amended from time to time as may be necessary to conform

to any revision of the plan that may be made by the Commission; provided, however, that all such regulations shall be reasonable.

In the event that a political subdivision has adopted, or hereafter adopts, a general zoning ordinance regulating, among other things, the height of buildings, any airport zoning regulations adopted for the same area or portion thereof under this Act, may be incorporated in and made a part of such general zoning regulations, and administered and enforced in connection therewith; provided, that such interrelation of the two types of zoning regulations shall not be construed to limit the effectiveness or scope of those adopted under this Act.

The governing body of any political subdivision authorized to promulgate, administer, and enforce airport zoning regulations under this Act may delegate this power to any zoning board or planning commission under its jurisdiction, and may, if it so desires, authorize one such agency to determine and promulgate the regulations and another to administer and enforce them.

SECTION 5. PERMITS AND VARIANCES.

(a) *Permits for Continuance of Non-conforming Uses.* The owner of any structure or object of natural growth existing at the time of the adoption of airport zoning regulations under authority of this Act, which does not conform to said regulations, shall be granted a permit authorizing continuance of such non-conforming use upon application therefor made by him to the board, commission or agency authorized to administer and enforce the regulations; provided, that if such application is not made within 90 days after the effective date of the regulations in question, such board, commission or agency shall by appropriate action compel the owner of the non-conforming structure or object of natural growth, at his own expense, to lower, remove, reconstruct, or equip such object as may be necessary to conform to the regulations.

(b) *Permits for Change and Repair of Non-conforming Uses.* Before any existing non-conforming structure or object of natural growth for which a permit has been issued in accordance with sub-section (a) hereof may be altered or repaired, rebuilt, allowed to grow higher, or replanted, a permit must be secured from the board, commission, or agency authorized to administer and enforce the regulations, authorizing such change or repair. No such permit shall be granted that would permit the structure or object of natural growth in question to be made higher or become a greater hazard to air navigation than it was when the permit for its continuance was granted under subsection (a) hereof; and, where the structure or object of natural growth has been more than 50% torn down or destroyed, whether voluntarily, by act of God, or otherwise, or has become more than 50% deteriorated or decayed, no permit shall be granted that would permit said structure or object of natural growth to exceed the applicable height limit or otherwise deviate from the zoning regulations. In all such cases of 50% destruction, deterioration, or decay, whether application is made for a permit for repair or not, the said board or agency shall by appropriate action compel the mowner of the non-conforming structure or object of natural growth, at his own expense, to lower, remove, reconstruct, or equip such object as may be necessary to conform to the said regulations. Except as indicated, all applications for permits for change or repair of non-conforming uses shall be granted.

(c) *Permits for All Uses.* Where advisable to facilitate the enforcement of zoning regulations adopted pursuant to this Act, a system for the

granting of permits for all uses and structures within the zoned area may be established.

(d) *Variances.* Any person desiring to erect any structure, or increase the height of any structure, or permit the growth of any object of natural growth, or otherwise use his property, in violation of airport zoning regulations adopted under this Act, must apply to the board, commission or agency authorized to consider such applications, for a variance from the zoning regulations in question. Such variances shall be allowed upon a showing of practical difficulty or unnecessary hardship.

(e) *Obstruction Marking and Lighting.* In granting any permit or variance in accordance with this Section, the board, commission, or agency authorized to do so, may, if it deems such action advisable to effectuate the purposes of this Act and reasonable in the circumstances, so condition such permit or variance as to require the owner of the structure or object of natural growth in question to install, operate, and maintain suitable obstruction markers and obstruction lights.

(f) *Exhaustion of Remedies.* No person desiring to continue a non-conforming use, to change or repair a non-conforming use, to take any action requiring a variance under sub-section (d) hereof, or to take any other action covered by this Section, shall initiate any action in the courts unless and until he has exhausted the remedies provided by this Section.

SECTION 6. ACQUISITION OF AIR RIGHTS.

In any case in which: (1) the approach protection necessary according to the Commission's airport approach plan cannot, because of constitutional limitations, be provided for in airport zoning regulations under this Act; or (2) a permit for continuance of a non-conforming use has been granted under Section 5 (a) hereof; or (3) a variance has been granted under Section 5 (d) hereof, either the political subdivision having jurisdiction or the Commission may acquire, by purchase, grant or condemnation, such an air right, easement, or other estate or interest in the property or non-conforming use as may be necessary to effectuate the purposes of this Act. In cases of imminent danger to the health, safety, or general welfare of the public the political subdivision and the Commission shall have the power to take such immediate steps as may be necessary to remove or mitigate said danger, and a hearing shall thereafter be held to determine what compensation, if any, should be made to the owner of the property or non-conforming use causing said danger.

SECTION 7. PROCEDURE.

In all cases of applications for permits and variances as provided for in Section 5 hereof, a public notice shall be published in the manner prescribed by law for publication of legal notices, of a public hearing upon the application in question; a public hearing shall be held at which any person having an interest in the proceedings shall have an opportunity to offer evidence for or in opposition to the application in question; and written findings of fact and conclusions of law shall be made by the board, commission or agency authorized to consider such application, based upon the evidence offered at the public hearing.

SECTION 8. JUDICIAL REVIEW.

Any person aggrieved by any zoning regulations adopted pursuant to this Act or by any order or ruling upon an application for a permit or variance,

may, within 30 days thereof, appeal therefrom to the county court of the county within which the property, structure, or object of natural growth in question is located; after such notice as such court shall direct to the parties interested, including all political subdivisions served by the airport affected and the agency promulgating the zoning regulations in question, a hearing may be had before such court at an early and convenient time and place fixed by it, and said court may, by its decree, annul, affirm, or alter the order or ruling complained of, if it finds that the applicable rules of law so require; provided, that, in all cases, any findings of fact that may have been made by the board, commission, or agency authorized to hear and consider applications for permits and variances, if supported by substantial evidence, shall be accepted by the court as conclusive. Appeals from the county court to the court of appeals shall be in accordance with the statutes governing such appeals now in force and effect.

SECTION 9. PENALTIES AND REMEDIES.

Penalties of fines and imprisonment for violations of any regulations, order, or ruling promulgated or made pursuant to this Act, may be prescribed in any airport zoning regulations that may be promulgated under authority of this Act. In addition, either the political subdivision within which the property is located or the Commission may institute in any court of competent jurisdiction, an appropriate action or proceeding to prevent, restrain, correct or abate any violation of airport zoning regulations adopted under this Act, or any order or ruling made in connection with their administration or enforcement, and the court shall adjudge then to the plaintiff such relief, by way of injunction (which may be mandatory) or otherwise, as may be proper under all the facts and circumstances of the case, in order fully to carry out and effectuate the purposes of this Act and of the regulations adopted and orders and rulings made pursuant to authority herein given.

SECTION 10. SEPARABILITY.

Each separate provision of this Act shall be deemed to be independent of all other provisions herein, and if any provision of this Act is declared to be invalid, all other provisions thereof shall remain valid and enforceable. If any provision of this Act is held invalid with regard to any person or circumstances, it shall not be invalid as to other persons or circumstances.

SECTION 11. INCONSISTENT ACTS REPEALED.

All Acts or parts of Acts inconsistent with this Act are hereby repealed.

SECTION 12. EFFECTIVE DATE OF ACT.

This Act shall become effective on the ——— day of ————————, 19—.

SECTION 13. CITATION OF ACT.

This Act shall be known and may be cited as "The Uniform Airport Zoning Enabling Act."

# BOOK REVIEWS

**THE AIR LINES. A Pamphlet issued by Stern, Wampler & Co. Inc. Chicago: 1940. Pp. 14.**

**HANDBOOK OF THE AIR TRANSPORT INDUSTRY. Issued by J. S. Bache & Co. New York: 1940. Pp. 48.**

One of the major market phenomena of the last few years has been the failure of air transport stocks to keep pace market-wise with the mounting enthusiasm manifested by the public at large in the industry. Though at one time the stocks of air transport holding companies were a subject of speculative buying, largely a result of trading by insiders, there has been no sustained trading since the enforced reorganization of companies as operating units subsequent to the 1934 Congressional inquiry into ail mail contracts.

Laggardliness of the investing public may be contrasted with the sharpened interest of the general public in air transportation—an interest which is exhibited in the form of growing passenger revenue and the use of aeroplane as a means of travel by those to whom the mere idea would have been abhorrent a short time back, by the rising volume of written communications dispatched through the skyways by means of the air mail service, and by the as yet meager and tentative but nonetheless unmistakable beginnings of air express on an important scale.

The reason for this laggardliness in the markets is not far to seek. It is to be found in the fact that it is only the exceptional investor who can afford to buy for the long pull, foregoing income now, in the prospect of a profit arising from a capital appreciation over the years as the industry begins to find itself and to get over its growing pains. To the ordinary security buyer, present income is vital, and longer range consideration, however valid, must yield to it. To this investor, therefore, air transport stocks have not been an attractive medium of investment because, in common with all struggling infant industries, dividend distributions by air line companies have been characterized by both modesty in amount and infrequence or total absence of occurrence. Further, the speculative traders who, in contrast to the average investor, like to get in and out of the market fast and who are interested in price rises rather than dividends, find little of interest for they recognize the lack of speculative possibility in the industry. And whatever confidence may exist in the future of the industry as an industry, it is still too early to forecast with reasonable infallibility the individual companies which will be the leaders a few years hence.

The two studies here under review are in essence a species of sales literature supplied by two brokerage houses to their clients for the purpose of affording a background of information and analysis which will enable those clients to make—or perhaps not to make—investments in the air transport industry with a fair degree of intelligence and appreciation of the rewards and dangers involved. They are fully in the tradition of the true investment counsellor inasmuch as there is in neither any effort to

paint an altogether roseate picture of the future of commercial aviation, but, rather, the blemishes which mar that prospect in actuality are faithfully recorded. The rays of hope which shine through the hazards are enumerated and evaluated with a temperateness and a continual undertone of caution which serve to indicate how inappropriate is the application of the term "sales literature" to these pamphlets.

The one prepared by Bache & Co. is lengthier but this is mainly due to the fact that it, unlike the Stern, Wampler study, considers separately in some detail the situation of twelve of the leading companies, and supplies as well an excellent two-page map of the United States showing all of the officially scheduled airways. These individual company studies describe the territory and routes of the particular line, its pending applications before the Civil Aeronautics Board for new and additional routes, its equipment, and its financial condition, the latter including its current capitalization in tabular form; and this is followed by an analysis of the line's operations in which are discussed such relevant matters as the comparative sources of revenue, special factors affecting the operating ratio, and a tentative estimate of per share earnings, all followed by a number of the principal operating statistics, also in tabular form.

Both of the pamphlets have examined, from the viewpoint of the industry generally, a number of things which bear importantly upon the rate and certainty of growth of the industry as a whole, and, indeed, the Stern, Wampler booklet is confined in its scope to considerations of this character. The picture which emerges from each is basically the same, namely, that of an industry which is forging ahead with breath-taking speed insofar as relative increases in volume of business are concerned, but which is not yet at all ready to begin regular and sustained earnings distributions to its owners. Passenger revenues particularly, which seem destined to be far and away the most important for the lines, are shown to be nearly doubling themselves of late—and this will probably continue although these studies were issued at a time when the industry was riding the crest of a remarkably long safety record period which has since been brought to an unfortunate end. Mail revenues, although life-savers now for many lines and once the first in importance for all, have definitely taken second rank as a source of income. Air express is still in its barest infancy and is now furnished at almost prohibitive rates, but may one day yield a large and lucrative income. The conclusion seems to be amply justified that, with respect to the single factor of business volume alone, the air transport industry is on the threshold of even greater gains than those that have been made and are now being made.

The seeds of the greatest threats to the industry at present appear to lie within the great National Defense effort which is in progress and which really did not get under way in earnest until after these studies were written. In the Bache & Co. pamphlet the view is expressed that this national program will benefit the air lines in a variety of ways although it is recognized that there may be some immediate difficulties with such things as labor supply. This optimism is premised on the view that because of the "obvious importance of the air lines themselves . . . it is indicated that every effort will be expended to maintain their orderly operation." Since this entirely reasonable supposition was first expressed,

however, the public prints have carried intimations to the effect that some persons highly placed are not so convinced that commercial aviation should not be sacrificed to certain conceptions of military necessity. The vigor and force with which these intimations were publicly attacked by spokesmen for the industry may perhaps succeed in scotching the possibility of injury from this quarter, but at present it continues to be a threat of a serious nature.

A second harm generated by the defense program is contained in the peculiarly crushing effect on the air line companies of the tax measures devised to finance it. The Excess Profits Tax embodied in the Second Revenue Act of 1940 provides two alternative bases for the computation of the tax—earnings in excess of those realized in a prior average earnings period, or earnings in excess of a certain proportion of the company's invested capital. Since many of the air transport companies have been in existence for several years but have only lately realized, or are just on the verge of realizing, net income, it is plain that the first alternative will cut heavily into earnings available for corporate purposes after taxes, as will also the second because the companies operate on a relatively low degree of capital investment. The injury that will be wreaked by taxation of this sort will follow from the industry's inability to help finance itself from earnings as well as from the consequent inability, because of inadequate earnings for dividends, to attract equity capital from outside. Capital for the expansion and improvement of equipment and facilities being the major need of the industry, the National Defense program, because of its staggering expense, was bound to be a source of danger. The particular manner in which the expense is to be met has magnified the danger for the air transport industry, which not even the exemption contained in the statute for income derived from air mail payments wholly removes.

A survey of the respective capitalizations of the various individual companies does, however, disclose an extremely healthy condition with respect to certain aspects of the capital-raising problem. Paradoxically enough, the industry may well congratulate itself that it has presented to the investment world such a speculative and hazardous prospect, because this has operated to prevent the companies from financing publicly on any sizeable scale other than the sale of common stock. Of the twelve companies examined in the Bache & Co. report, not one has any long-term funded debt, only two have any preferred stock outstanding, and seven are capitalized solely with common stock. The capitalizations of the remainder include relatively negligible amounts of short-term bank loans or equipment obligations. The contrast of this over-all capital picture with that of such an established and non-speculative business as the furnishing of electricity and gas, where complex capital structures and excessive debt financing have finally come to hang around the neck of that industry like a millstone, is striking as well as illuminating. Apparently a business succumbs to the financiers only when it has become stodgily respectable from an investment point of view. It is true, of course, that the relatively small fixed plant and properties owned by an air line do not look in the direction of much borrowing on a long-term secured basis, but this is perhaps just as well. The experiences of the

depression period have demonstrated the desirability of equity financing as causing merely a cessation of dividends in times of stress instead of a decline into the dark recesses of the bankruptcy court precipitated by a failure to meet accruing interest charges. From this danger the various air transport companies appear to be reasonably immune. The current capital needs of the companies, these studies plainly show, flow mainly from the necessity of keeping abreast of aeronautical advance by the purchase of new transport equipment. Fortunately the recent introduction into this field of the equipment trust device, which has been so successfully utilized in the case of railroads, has gone far towards solving or at least alleviating this particular fund-raising problem. Its use may be expected to increase.

The immediate legal problems confronting the individual companies revolve around the prosecution of applications to the Civil Aeronautics Board for new routes. The Bache & Co. study shows a veritable deluge of these requests and spells out in some detail the conflicting nature and competitive consequences thereof. The point is properly made that the ultimate disposition of these will have a vital effect upon the fortunes of the companies involved, and that, accordingly, investment in a particular line must be made subject to the realization that an unhappy run of luck in connection with these applications may render that investment less desirable than another might have been. But this goes only to the matter of single companies; the future of the industry as a whole is not jeopardized from this quarter for the reason that the new routes will be forthcoming and someone will be flying them. Thus, a rational diversification of investment should serve as an effective counter-irritant and reduce this peril to a minimum. Again from the lawyer's standpoint, the number and importance of these applications to the Board—as well as other matters over which the Board has jurisdiction—converts practice before the Board into one of the newer and more significant segments of the expanding area of administrative law. The air lawyer is now an administrative lawyer.

In sum, these two detailed and intelligent considerations of a young industry so obviously a foundation-stone of future national development come at an opportune time and perform a real service. The air transport business seemingly has come through its worst years and there are unmistakable signs that its ceiling is beginning to lift. The prospective investor, peering through the overcast which remains, stands in need of all the assistance which can possibly be given him, and the industry stands equally in need of his substantial participation. The function of the honest broker in seeking to bring together those who can become mutually advantageous to each other has been well discharged by the two houses sponsoring these studies. That the cautious optimism which they generally express as to the attractiveness of air transport investment was not unfounded is evidenced by the fact that present market quotations show the air lines to be holding the levels existing six months ago when these reports were issued, despite the subsequent termination of the record safety period and the enhanced threat from the defense program.

Carl McGowan*

*Assistant Professor of Law, Northwestern University.

**WIN YOUR WINGS. Book Two. By Colonel Roscoe Turner, world famous pilot, President of the Turner Aeronautical Corporation and Turner School of Aeronautics, and by Jean H. Dubuque of the Civil Aeronautics Authority. Chicago, Frederick J. Drake & Co. Pp. 426. Price: $3.50.**

In (1940) 11 Journal of Air Law 368, I reviewed Book One of the present work. In regard to Book Two I can only repeat what I priorly stated in recommending Book One. The pilot student who has completed the primary field training and has studied the theory as presented in Book One, finds in Book Two detailed and exhaustive advanced aviation instruction in order to prepare him for a commercial pilot's certificate or for a flight instructor's rating. The first five lessons offer a thorough and impressive description of advanced and aerobatic maneuvers, modern aircraft instruments, principles of aircraft engines, airplane structure, and radio and instrument navigation. The clear and skilful diction together with excellent diagrams, tables, and photos make it easy not only for the student, but also for the layman to obtain a clear understanding of the intricacies of the modern technique. Lesson Six is named "Winged Commerce". What the authors say here about the selection of a flying school, the organization of airlines and aircraft manufacturing companies, contributing industries, and the United States Goverment Service will be of special interest. Lesson Eight, named "Your Career in Aviation", gives excellent hints how to apply for a position in aviation, and describes the possibilities of, and the approach to Army and Navy Flight Training and to Aircorps Flying Schools. A carefully selected index concludes this most valuable work.

The two volumes of "Win Your Wings" will certainly become one of the standard books for the training of students pilots. The experienced pilot likewise will gladly return to this thorough and reliable source of information for the high art of flying.

Fritz G. Lorenz